KE-RA-ME-JA

Studies Presented to Cynthia W. Shelmerdine

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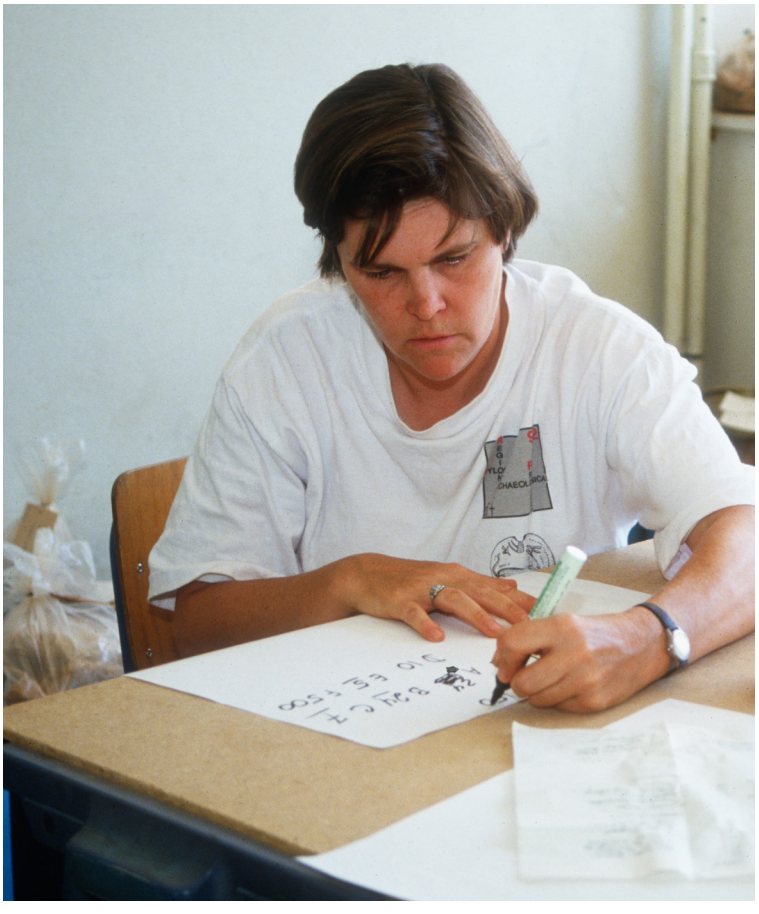

Cynthia in the Hora School House. Courtesy Department of Classics, University of Cincinnati and the Pylos Regional Archaeological Project.

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Preface

Dimitri Nakassis, Joann Gulizio, and Sarah A. James

The title of this volume, *ke-ra-me-ja*, is a woman's name that appears only once in the extant Mycenaean documentation, on Knossos Ap 639, a catalog of named women. We chose it because it means "potter" (Κεράμεια, from Greek κέραμος, "potter's clay") and combines two major strands of Cynthia Shelmerdine's many scholarly pursuits: Mycenaean ceramics and Linear B texts. It thereby signals her pioneering use of archaeological and textual data in a sophisticated and integrated way. Like Cynthia, it is also one of a kind. The intellectual content of the essays presented to her in this volume demonstrate not only that her research has had a wide-ranging influence, but also that it is a model of scholarship to be emulated. The fact that the authors contributed in the first place is a testament to her warm and generous friendship. We hope that the papers in this volume both pay tribute to her past work and prove fruitful to Cynthia in her many continuing endeavors.

Biography of Cynthia W. Shelmerdine

Susan Shelmerdine

Cynthia Shelmerdine credits much of her early interest in archaeology to Emily and Cornelius Vermeule who became neighbors (and fellow dog walkers) during her junior year of high school. She followed this interest to Bryn Mawr College where, when she began Greek in her sophomore year, she realized ancient Greece was her true passion. After graduating with a degree in Greek from Bryn Mawr, she studied for two years at Cambridge University as a Marshall Scholar and began to combine her interests in archaeology and Greek in work on Linear B. From Cambridge, she went on to Harvard University where she earned her Ph.D. in Classical Philology in 1977 with a dissertation that grew out of work she had done on Late Helladic pottery from Nichoria with the University of Minnesota Messenia Expedition during the summers of 1972–1975. This early background attests to her firm belief in taking an interdisciplinary approach to the study of early Greek history and signals three common threads in her scholarly work: Greek, Linear B, and Mycenaean pottery. Cynthia joined the Department of Classics at the University of Texas in 1977, teaching "all things Greek, from language to archaeology," serving twice as Department Chair, and becoming the Robert M. Armstrong Centennial Professor of Classics in 2002, before retiring with emerita status in 2008 to continue her travels and her work on Mycenaean Greece. She returned to England in 2009 as a Visiting Associate at Oxford University and Official Visitor at Cambridge University and, in 2011, as Peter Warren Visiting Professor at Bristol University.

In addition to writing a teaching commentary on Thucydides VI and an elementary Greek textbook, Cynthia has published extensively on Pylos and the evidence of the Linear B tablets for

understanding Mycenaean society. Her ability to draw out the big picture from details and data in the tablets is well illustrated in this work, as it is in *The Cambridge Companion to the Aegean Bronze Age* (2008), to which she contributed and also edited. Cynthia has continued to apply her expertise in Mycenaean pottery as a codirector of the Pylos Regional Archaeological Project, in charge of museum operations and Bronze Age ceramics (1991–1996), and again as a ceramics and historical expert for the Iklaina Archaeological Project (1999–present). Along the way, she has enjoyed sharing her love of ancient Greece and the Aegean Bronze Age with a wide audience as a regular lecturer and tour leader for the Archaeological Institute of America. As this volume suggests, however, it is her interest in and her work with students that she has enjoyed the most and that continues to fuel her passion for bringing Mycenaean society to the light of a new day.

Bibliography of Cynthia W. Shelmerdine

Degrees

1970 A.B. in Greek, Bryn Mawr College, Bryn Mawr, PA.

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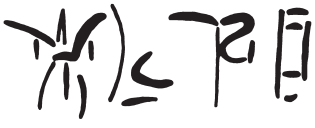
List of Abbreviations

Abbreviations for periodicals in the reference lists of the chapters follow the conventions of the *American Journal of Archaeology* 111 (2007), pp. 14–34.

A	Akones "mound"
AR	Arkalochori
ARM	Armeni
ASCSA	The American School of Classical Studies at Athens
ca.	approximately
CAP	Cambridge Amphora Project
Chem.	chemical group
CHIC	Corpus Hieroglyphicarum Inscriptionum Cretae
cm	centimeter
comp.	composite (measurement restored on the basis of one or more overlapping but nonjoining fragments)
CR	Crete
DA	Dark Age
dat.	dative
diam.	diameter
dim.	dimensions
EDS	energy dispersive X-ray spectrography
EH	Early Helladic
EM	Early Minoan
EPG	Early Protogeometric
est.	estimated
fem.	feminine
FM	Furumark motif number
fr.	fragment
FS	Furumark shape number

g	grams
GC-MS	gas chromatography-mass spectrometry
h.	height
ha	hectare
HARP	Hora Apotheke Reorganization Project
HM	Heraklion Museum
Hom.	Homeric/Homer
HT	Hagia Triada
ICP-MS	inductively coupled plasma mass spectrometry
IKAP	Iklaina Archaeological Project
INAA	instrumental neutron activation analysis
IO	Juktas
kg	kilograms
KH	Chania
km	kilometers
KN	Knossos
KO	Kophinas
L	Lambropoulos/Lakkoules group
L.	length
lat. inf.	*latus inferius*
LC	Late Cycladic
LD	Lustrous Decorated
LH	Late Helladic
LM	Late Minoan
m	meters
M	tombs excavated by UMME at Nichoria
masc.	masculine
m asl	meters above sea level
max.	maximum
MC	Middle Cycladic
mcg	micrograms
MGUA(s)	"Minoan Goddess(es) with Upraised Arms"
MH	Middle Helladic
ml	milliliters
MM	Middle Minoan
MN	man's name
MY	Mycenae
Myc.	Mycenaean
N	Nikitopoulou tomb group (Tourkokivouro)
no.	number
nom.	nominative
pers. comm.	personal communication
pers. obs.	personal observation
PG	Protogeometric
PH	Phaistos
PIXE	particle induced X-ray emission
PK	Palaikastro
pl.	plural
PN	place name
POR	Poros Herakleiou
PR	Prassa
PRAP	Pylos Regional Archaeological Project
pres.	preserved
PY	Pylos
Py/GC-MS	pyrolysis/gas chromatography-mass spectrometry
RCT	Room of the Chariot Tablets, Knossos
rest.	restored (measurement restored despite missing segments of profile)
RLWM	Red Lustrous Wheelmade
SEM	scanning electron microscope
sg.	singular
SY	Syme
T	Tsagdi group
TH	Thebes
th.	thickness
TRO	Troy
UMME	University of Minnesota Messenia Expedition
v	verso
V	Veves
WAE/ICP or ICP-AES	inductively coupled plasma atomic emission spectrometry
XRD	X-ray diffraction
XRF	X-ray fluorescence
ZA	Zakros



KE-RA-ME-JA

Ceramic Studies

CHAPTER

1

Late Helladic I Revisited: The Kytheran Connection

Oliver Dickinson

It is a particular pleasure to offer what is essentially a pottery study to Cynthia, because our long friendship began in the potshed of the Nichoria excavation, when she arrived in 1972 to join Cindy Martin in helping me process and study the pottery.* Nobody could have asked for more willing or better-tempered assistants. Now Cindy, alas, is no longer with us, but Cynthia and I have continued a scholarly and personal friendship that has, I hope, benefited both of us. In deeply felt appreciation of this, and in reciprocity for her entertaining and informative contribution to *Autochthon* (Shelmerdine 2005), I offer this study, going back to the beginnings of Mycenaean civilization, whose most flourishing phase she has illuminated so well in her scholarly publications.

The history of this study requires a little exposition. In my original article on the Late Helladic (LH) I style (Dickinson 1974) I drew attention to the links with Kytheran Late Minoan (LM) IA, which I saw as the biggest likely influence on the formation of the style, though by no means its sole source, and I repeated this view after I had seen the local LH I at Nichoria (Dickinson 1977, 26). But I was relying on Coldstream's account of the Kytheran material, mainly from the Kastri excavation (Coldstream 1972a, 1972b); I did not inspect it myself. Later, it occurred to me that many of the pieces that I had accepted as local, and thus providing good parallels for characteristic features of

*Thanks are due to the British School at Athens for permission to reproduce Figs. 1.1:a, c, and f, and to Penelope Mountjoy for permission to use or adapt the originals of Figs. 1.1:d, 1.1:e, and all of Fig. 1.2 except 1.2:b. I am very grateful to Hayley Saul, of the Department of Archaeology, University of York, for preparing the illustrations.

the LH I style, might themselves be LH I imports, so that my argument for the link would be circular.

I therefore gladly seized the opportunity offered me by Cyprian Broodbank's invitation to visit the Kythera Island Project and look at the early Late Bronze material, from the survey and the Kastri excavation, in 2003. At the same time, Eleni Hatzaki came to inspect the Second Palace period material, with a particular interest in determining how much was local and how much imported, particularly from Knossos, a source stressed in the publication. Together we studied this material for some days in August, getting valuable help from Jerry Rutter, who was studying the later, largely Mycenaean, material, especially on the identification of signs of burnishing, and from Evangelia Kiriatzi on pottery fabrics. This was an experience that I valued greatly, and I wish to express my warmest gratitude to Cyprian Broodbank and Evangelia Kiriatzi, the codirectors of the Kythera Island Project, for their invitation, help, and hospitality, also to the Epimelete Aris Tsaravopoulos and museum guard Nikos Cominos for access to the Kastri material, and to Eleni Hatzaki and Jerry Rutter for sharing their expertise with me.

Eleni Hatzaki and I made a joint report to Cyprian Broodbank after our work, and I will be quoting some of our conclusions here, with their permission. I also began an article on the relevance of our findings to the topic of the origins of the LH I style. This had to be set aside for work on my last book and remained an unfinished project, but one to which I always intended to return. So, when I was invited to contribute to Cynthia's Festchrift, this seemed a particularly apposite topic to offer to a volume entitled *Ke-ra-me-ja*.

Problems of Terminology

There have been many developments relevant to the study of LH I since my earlier work (Dickinson 1974) appeared. Much material, often from deposits, has been published (notably Rutter and Rutter 1976 [Hagios Stephanos]; Davis 1979 [Korakou]; Lolos 1985 [Messenia and Triphylia]; Rutter 1989 [Tsoungiza]; Dietz 1991, 41–105 [Asine]; McDonald and Wilkie, eds., 1992, 473–480 [Nichoria]), and valuable summaries that illustrate many individual examples have been produced by Mountjoy (Mountjoy 1986, 9–16; 1993, 33–35; 1999, esp. 68–69 and 80–85 [Argolid], 247–248 and 252–254 [Laconia], 306–307 and 312–316 [Messenia], 372–374 [Elis]; see also Taylour and Janko 2008, 369–371, for a summary of all Hagios Stephanos material). These and other publications have greatly clarified the context in which the style appeared, making it abundantly clear that the development of the typical range of Mycenaean wares and fabrics was a slow process. Not only did the earliest Mycenaean plain and domestic wares largely continue Middle Helladic (MH) traditions, but LH I was only one of a group of fine decorated wares produced at much the same time, all of which showed varying degrees of Aegean influence.

This fits well with the picture presented by the sequence in Grave Circle B at Mycenae, which clearly began in a late stage of MH and continued well into the phase characterized by LH I pottery without any significant hiatus or change in character. Yet vases classifiable as LH I were conspicuous by their rarity among the many decorated vessels found. The same is true of Grave Circle A, though little pottery of any kind was preserved except in Graves VI and I, the latter being the source of most of the Mycenaean decorated material. In fact, the dividing line between MH and LH, in pottery as in everything else, can now be seen to be anything but clear-cut, and the change in terminology from MH to LH does not coincide with a change of great historical significance. Emily Vermeule's description of MH III–LH I as "a solid chunk of 'transitional' time" (1964, 117) was prophetic.

This introduces the vexed problem of terminology. The long-established custom of using the same terms to refer both to historical periods and to the pottery styles that principally define those periods introduces particular complications on the mainland at this time. A tendency to subdivide MH into phases I, II, and III has become increasingly common, although in my view highly questionable, because no accepted definitions of these phases exist, nor could any necessarily be developed that are generally applicable (see Zerner 2008, 179). The

scope for disagreement is demonstrated by Zerner's correlation of her undifferentiated MH II at Hagios Stephanos with Dietz's MH II Late and Final in the Argolid (Zerner 2008, 181). The analogy is, of course, with the Minoan system established by Evans and Mackenzie, and Søren Dietz (to whom I apologize in advance for these critical comments) has taken the parallel a step further by establishing a MH IIIA–IIIB subdivision and then going on to distinguish LH IA and IB (Dietz 1991).

It seems to me that two different systems are being confused here. Dietz's usage basically reflects the old pattern, in which the I, II, III divisions and their subdivisions might be used to denote historical as much as stylistic phases. But the LH I, IIA, IIB, and similar terminology has for a long time been principally used to refer to well-defined stages in the decorated Mycenaean pottery style. There might seem to be more of a case for using "LH I" to refer to a historical phase than there is for many of the subdivisions because it could be taken to represent the formative phase of Mycenaean culture, although many characteristic Mycenaean features make their appearance quite independently of developments in the pottery. But if the term is to be used chronologically, it can only be confusing to apply it to any time prior to the appearance of LM IA, from which the LH I decorated style, as classically defined (Mountjoy 1986, 9–16; 1999, 18–19), is agreed to derive.

In this regard, the rare occurrences of rounded or S-profile cups with Ripple decoration, classified as Lustrous Decorated (LD) in the Argolid (e.g., Dietz 1991, 97–98, fig. 28:283), and occurring in Messenia also (e.g., Korres 1976, 282, pl. 183:γ–δ [Routsi T. 1]; Lolos 1985, fig. 367 [Volimidia, Kephalovryso T. 2;], found in a pit with a spouted vessel, also decorated with Ripple, fig. 368; McDonald and Wilkie, eds., 1992, 473), do not provide sufficient support for a change of nomenclature with their appearance. Rather, they offer further scope for confusion, since their Minoan parallels are no longer classified as LM IA or transitional Middle Minoan (MM) IIIB/LM IA, as in Dietz (1991, 312), but as MM IIIB, which may be seen as the heyday of Ripple pattern generally (Coldstream 1972a, 99; 1972b, 283; Hatzaki 2007, 164–165, fig. 5.4). In fact, there is no obvious reason why what Dietz terms LH IA could not have been called MH IIIC (except that in the Minoan model there is no MM IIIC), or MH III Final, since he has a MH II Final. To my mind, this is a striking illustration of the pitfalls of using the traditional tripartite system.

In retrospect, it might have been better if specialists had followed Furumark's example and called the successive phases of the Mycenaean pottery style Myc. I, IIA, and so on, thus allowing a distinction to be made between stylistic and chronological terminology; but it is too late now. Thus, in what follows, if the term LH I is used stylistically, it will be used of the first stage of the decorated Mycenaean pottery style as classically defined and nothing else; if used chronologically, it will serve as shorthand for the period in which the LH I style of decorated pottery became current.

The Origin of LH I: The Problem

While much attention has focused on the context in which the LH I style appears, there has also been concern with the style's genesis. Originally it was believed that, as with all stages of the Mycenaean style, it originated in the Argolid. Coldstream was the first to put forward the view, on the basis of the local Minoan sequence at Kastri, that the earliest form of LH I was developed in the southern Peloponnese. He was led to this idea by the prevalence of the Type I Vapheio cup (Furumark Shape [FS] 224; see Furumark 1941; Fig. 1.1:b, c), which he identified as the earliest form, at Kastri and in the southern Peloponnese, whereas, in his belief, it was absent from the Argolid (Coldstream 1972b, 284, 291). Rutter reached the same conclusion on the basis of the stratigraphical sequence in Hagios Stephanos Area N (Rutter and Rutter 1976, 64), but he laid more emphasis on the prevalence at Hagios Stephanos of Minoanizing wares that had strong Kytheran connections, suggesting that local potters producing these wares developed the new dark-on-light Minoanizing style which became LH I. Lolos accepted the link with Kythera and the Minoanizing tradition

and the priority of Laconian LH I, but he noted the popularity of the Type I Vapheio cup in Messenia and argued that Messenian LH I developed at least as early as that in the Argolid, had individual features, and made its own contributions to the mature style (Lolos 1985, 528–530).

All arguments depending on the presence or absence of the Type I Vapheio cup must be considered weak. This variant remains notably rare at Hagios Stephanos (see now Mountjoy 2008, 370), despite the strong Minoanizing tradition, while it is common in Messenia, where such a tradition was much weaker, to judge from the published material from Nichoria. Here there are undoubtedly pieces that seem to have a link with Kythera, but it is not clear how many are actually local products; some are certainly thought to be imports (on the relatively scanty material, see McDonald and Wilkie,

Figure 1.1. The development of the Vapheio cup: (a) Knossian MM IIIB (Hatzaki 2007, 164, fig. 5.4:2; courtesy British School at Athens); (b) Kytheran LM IA, Type II profile (adapted from Coldstream and Huxley, eds., 1972, fig. 40:η 16); (c) LH I or Kytheran LM IA, Type I (Mountjoy 1999, 253, fig. 82:5; courtesy British School at Athens); (d) LH I, Type II (modified from Mountjoy 1986, 36, fig. 36); (e) LH I–IIA, Type III (after Mountjoy 1999, 253, fig. 82:12); (f) LH I–IIA, Type III, Ripple decorated (Mountjoy 1999, 253, fig. 82:7; courtesy British School at Athens). Scale 1:3.

eds., 1992, 76–77, 473). There is certainly no well-established class of Minoanizing open vessels, as at Hagios Stephanos. In any case, Type I Vapheio cups are not totally absent from the north Peloponnese. Apart from some of those that I have cited previously (Dickinson 1974, 113 n. 18; I now recognize that not all of these are clearly Vapheio cups), there are at least two unpublished examples from Midea (thanks are due to Katie Demakopoulou and Gisela Walberg for their generosity in showing me their material). So the current picture may simply reflect the chances of discovery, and this may even explain the type's rarity in the published material from Hagios Stephanos, for stratified LH I deposits are very rare there.

Even so, the argument placing emphasis on the significance of the Minoanizing tradition to the development of LH I certainly highlights a point of crucial significance. Zerner has made it clear (most recently in Zerner 2008, 202–206, 213) that the Fine Minoanizing ware of the Hagios Stephanos MH sequence is the same as the Lerna V ware classified as LD. This ware is evidently the product of a specialized workshop that had very distinctive traditions in the manufacture of vessels as well as their decoration. She has argued that the makers of this ware played a major role in the development of Mycenaean pottery, noting that the LH I of Lerna was normally produced in the same fabric as LD (Zerner 1986, 67), and she has commented that there is thus nothing new about LH I, for, like all the other wares in the earliest Mycenaean deposits, it derives from the MH tradition (Zerner 1993, 47 n. 41).

However, this assumes that a workshop producing LD ware in the MH period was located on the mainland, for, if Kastri was the only source, then LD would be an imported ware, at Hagios Stephanos as elsewhere, so not really in the MH tradition at all. The results of an ongoing program of scientific analysis to determine the source of the LD ware have seemed to favor a south Peloponnesian or Kytheran as opposed to Argive or Corinthian source. Zerner supports this interpretation on archaeological grounds, with a preference for south Laconia, evidently meaning Hagios Stephanos and its region (Zerner 2008, 205–206). Unfortunately, the latest, still unpublished, analytical work, based on thin sections, is reported to have ruled out south Laconia, leaving Kythera as the most likely source, although it was commented that the possibility of production in the Argolid needed further investigation (*The British School at Athens Annual Report of Council for the Session 2006–2007*, 44–45). Furthermore, three separate programs of neutron activation analysis of material from Hagios Stephanos have quite clearly separated LH III, mostly LH IIIB–IIIC, sherds, which seemed almost entirely local, from LH I–II sherds, which appeared to be from elsewhere; it is striking that these included LH I cup fragments, two decorated with Ripple (Taylour and Janko 2008, CD app. 3, esp. CD-121–122. I am extremely grateful to Michael Lindblom for drawing this to my attention). It would be premature to assume that we have a final answer, but at least the local origin of the earliest pottery classified as LH I cannot be assumed.

While it might seem surprising that LD, a ware copiously represented at Hagios Stephanos and Lerna and found at many other east Peloponnesian sites, should be entirely imported (cf. Rutter and Rutter 1976, 64), it is by no means impossible. This certainly seems to be the case with the great majority of what have been classified as "Aigina wares," found at mainland sites, most prominently Matt-painted, which, along with Minyan, used to be treated as one of the two classic MH wares. The argument, first set out in detail by Zerner (1993, 48–50), has been widely accepted.

What if LD is actually Kytheran, wherever found? This would create a curious situation, for although, as will be seen, LH I was clearly developed by potters fully conversant with Kytheran practice, it has many distinctive characteristics and can hardly itself be a product of Kythera in its mature form. Where, then, did it develop, if not at or in the neighborhood of Hagios Stephanos? The only other place where LD is found in real quantity is Lerna in the Argolid. The possibility that a workshop of potters deriving from Kythera was established there at some time in the MH period, even from the start, cannot be ignored. It would have to be assumed that this workshop continued to have contact with Kytheran potters and followed changes in style quite closely. But it must then seem strange that LM IA types that are undoubtedly early in Kytheran terms, like the Type I Vapheio cup and the motif of "metopal spirals" (Figs. 1.1:c, 1.2:b; Mountjoy 1999, 69, fig. 9:c), should be so much better represented in the

south Peloponnese than at Lerna or in the Argolid generally.

One possible explanation, assuming for the moment that south Laconia has to be ruled out as a source for LD, may be that what looks stylistically like the earliest LH I or is found in the earliest contexts assigned to LH I is in fact imported Kytheran LM IA. But there can be no denying that one or more workshops must have been established on the mainland to produce the more developed forms, which include quite evident divergences of various kinds from the Kytheran standard. That at least one workshop was established in the Argolid is indicated by the fact that, rarely, LH I pieces at Lerna were found not to be of LD fabric but rather of the fine version of Dark Tempered ware, surely local, the normal fabric of Mycenaean decorated pottery later (Zerner 1986, 67). At Nichoria, the LH I did not look other than local in most cases, but at the time that I was studying it the difficulties inherent in trying to distinguish good quality mainland,

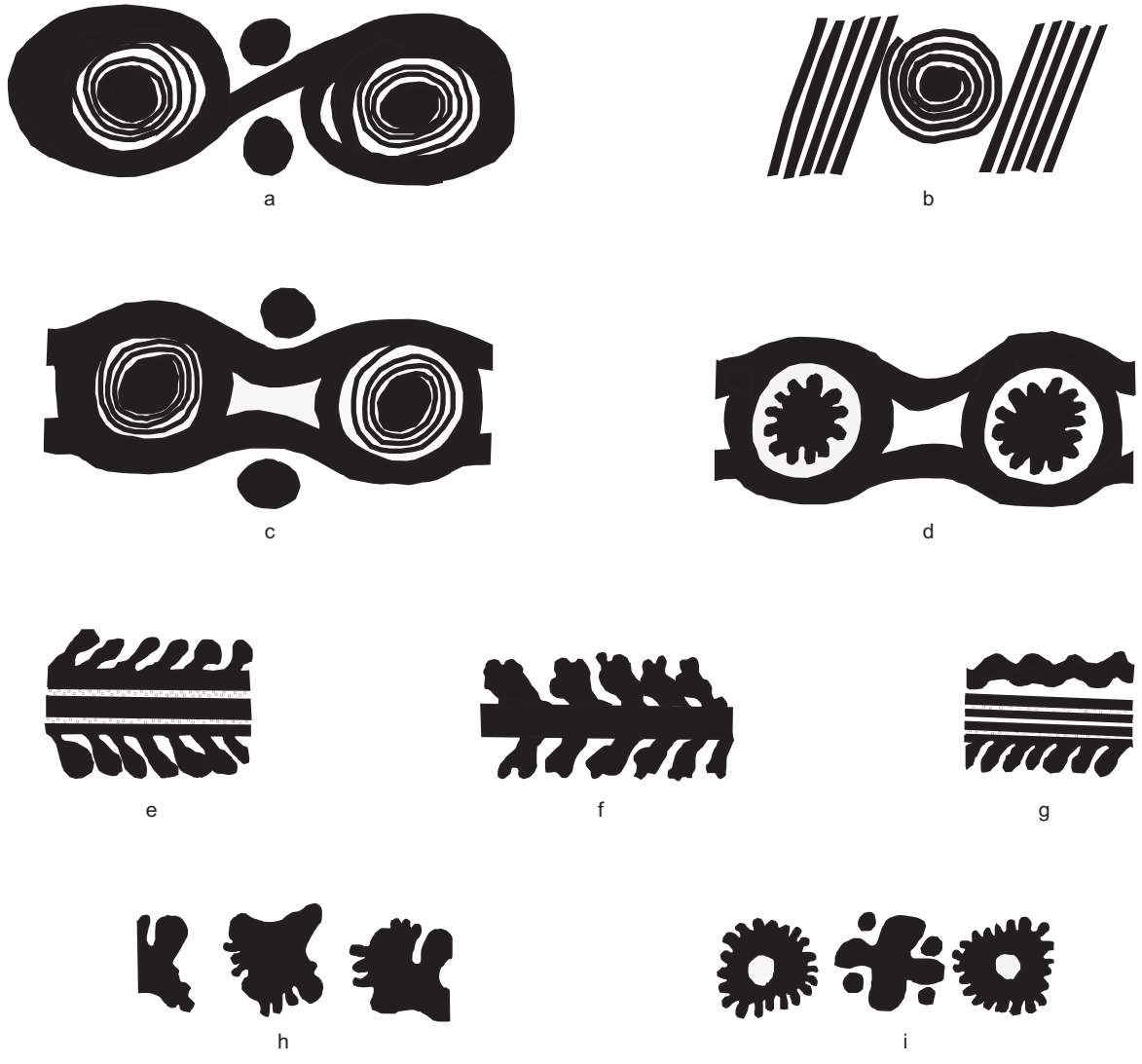


Figure 1.2. Some typical LH I motifs: (a) tangent spirals (after Mountjoy 1999, 69, fig. 9:a); (b) composite drawing of metopal spirals; (c) linked spirals (after Mountjoy 1999, 69, fig. 9:d); (d) linked circles (after Mountjoy 1999, 69, fig. 9:e); (e) foliate band, stylized (after Mountjoy 1999, 69, fig. 9:h); (f) foliate band, naturalistic (after Mountjoy 1999, 69, fig. 9:g); (g) foliate band in combination (after Mountjoy 1999, 69, fig. 9:i); (h) crocus blooms, alternated direction (after Mountjoy 1999, 69, fig. 9:n); (i) alternating "urchin" and cross (after Mountjoy 1999, 69, fig. 9:o). Various scales.

Cretan, and Kytheran fabrics by eye had not become so obvious.

I will now turn to setting out the observations and conclusions that Eleni Hatzaki and I made during our study of the Kastri pottery, leaving the problem of the base(s) of the LH I workshop(s) unresolved. It does deserve mentioning, though, that on the basis of the distribution of finds the only likely possibilities are the central Argolid (perhaps originally at Lerna, but moving to centers of growing significance like Mycenae itself), south Laconia, which effectively seems to mean Hagios Stephanos, or somewhere in Messenia, most probably in the region of Pylos, where much material is known from Epano Englianos, Volimidia, and Voroulia. Finds elsewhere on the mainland are likely to be imports, as are those on various Aegean islands, at Miletus, and in the central Mediterranean on the Lipari islands and at Vivara.

The Typical Features of Kytheran MM III–LM I Fine Pottery Compared and Contrasted with LH I

Eleni Hatzaki and I studied all the fine ware material from Kastri Deposits ζ to ρ, checked some findings against Deposits δ and ε, and also considered the relevant pieces cataloged under ω and, by inspection in the display case, a few whole vases from the tombs. The results were in our view conclusive. We agreed that the vast majority of the material from all these deposits was of identical fabric and surely local. Of the pieces that looked particularly similar to LH I stylistically, only a very few seemed plausible LH I imports (θ 2 and 3, esp.). Some of the pieces classified by Coldstream as imported LM IB and LH IIA were also judged to be likely imports, but the great bulk of what he took for imported fine ware looked local in fabric. There was clearly a thriving local pottery industry at Kastri, unsurprisingly since this has proved to be a considerably larger site than was originally imagined. It evidently had no need to depend on Knossos or any other Cretan center for stylistic inspiration but had its own traditions and was capable of developing independently. It would not be surprising that such a well-established industry should be a source of widely distributed imports on the mainland and could have inspired the foundation of a "daughter" workshop at a leading center like Lerna.

The manufacturing practices involved in producing Kytheran fine ware up to and including LM IA were distinctive. Most conspicuous was the treatment of the interior of open vessels; these were not completely coated, polished, burnished, or even slipped, but were left rough, even sometimes in the area under the band that was normally painted inside the rim (this practice in itself makes a notable contrast with Cretan practice, in which the interior was normally wholly coated). Perceptible wheel ribbing on the interior was identified on one or two examples in Deposit δ and was quite common in Deposit ε (cf. Coldstream 1972b, 280). The exterior of vessels might be burnished or partly or wholly unburnished, in which case their appearance was notably dull; there was no obvious consistency in giving particular forms of treatment to particular shapes. It may be noted that on Knossian MM IIIB Vapheio cups burnishing was generally limited to the decorated area above the rib (Hatzaki 2007, 163, 165).

The use of a string to cut the bases of open vases from the wheel, in the manner most familiar from conical cups, was another well-established Kytheran tradition, found in Deposit ε on the coated straight-sided cups that seem directly ancestral to Vapheio cups. These bases tended to be flat, but beveled bases, which can be found on Knossian straight-sided cups as early as MM IIB (MacGillivray 2007, 138), were common, though never universal, on Kytheran LM IA Vapheio cups.

The rough treatment of the interior typical on open shapes in Kytheran fine ware is a distinguishing mark of LH I, found inside the mouths of both open and small closed vessels. Also, LH I Vapheio cups very frequently have beveled string-cut bases and share with Kytheran LM IA the practice of leaving a hollow in the profile behind the central rib (Fig. 1.1:b–d). This rib is one of the

basic features that distinguish Vapheio cups from straight-sided cups; it already appears at Knossos in MM IIIA (MacGillivray 2007, 147, fig. 4.34:3), on a type clearly ancestral to the true Vapheio cup, which starts to be popular in MM IIIB (Hatzaki 2007, 165). It may be that the Kastri potters only adopted the Vapheio cup from Crete during LM IA, for the Ripple pattern that was so popular on this shape in Knossian MM IIIB (and persisted in LM IA; Hatzaki 2007, 175) was never very common on Vapheio cups at Kastri, though it is found often enough on the contemporary rounded cups. Yet the hollow on the interior behind the central rib is a particular feature of Knossian MM IIIB (Fig. 1.1:a; Hatzaki 2007, 164, fig. 5.4:1–3).

Here a notable difference between the mainland and Kastri may be noted: rounded cups were common at Kastri but much rarer than Vapheio cups on the mainland (cf. McDonald and Wilkie, eds., 1992, 474). The Vapheio cup is in fact by far the most common shape wherever LH I is found in quantity, even among exports, as at Akrotiri on Thera, and the further developments of the form on Kythera (Coldstream 1972b, 284–285) were quickly taken up on the mainland. Here Type II, almost as old as Type I (a complete example from Tomb D [Coldstream and Huxley, eds., 1972, fig. 84:2, pl. 70:2] has early features—the deep rim band and metopal spiral decoration) became the basis for the standard form, but Type III, also developed by the end of LM IA (cf. Coldstream and Huxley, eds., 1972, pl. 75:5, decorated with early tangent spiral), was in use before the end of LH I. Apart from rounded cups (FS 211), the only other cup form represented by several known examples is the straight-sided cup (no FS number; see Mountjoy 1986, 16), a long-established Minoan shape; other types are vanishingly rare, and bowls of any kind are also hard to identify. Such differences would suit the practice of a "daughter" workshop, which might be expected to concentrate production on fewer types than workshops in the homeland.

In terms of decoration, LH I followed Kytheran practice in layout very closely, placing the decoration in the upper body zone only (unless it is Ripple on a Vapheio cup, in which case it extends below the central rib to the base band), between thick horizontal bands. Minor details of Kytheran LM IA, such as carrying the band painted at the base of the Vapheio cup body under the base, extending the rim band on rounded cups onto the shoulder, and frequently decorating handles with diagonal bars rather than coating them, were all adopted in LH I. Kytheran and more general Minoan practice was also followed in the application of added white horizontal lines or rows of dots over large areas of red or dark lustrous paint, such as the coating on necks and rims, the bands on the body, and even the thick lines in the middle of foliate band patterns (as on Fig. 1.2:e, g). Interestingly, this use of added white was already becoming less popular in Kytheran LM IA than it had been in MM IIIB (Coldstream 1972b, 289), in this respect paralleling Knossian developments, while added white continued to be popular on the more elaborate East Cretan vases.

Perhaps the LH I potters were following the practices current in Kytheran LM IA when the style was transferred to the mainland, but a distinct lack of interest in Ripple pattern, which could reflect the relative difficulty of producing it well, may represent a deliberate choice by the workshop founder(s) that itself may have been a response to an apparent lack of interest in Ripple-decorated vases on the mainland. Not only are LH I Vapheio cups decorated with Ripple quite rare, but there are few examples of the pattern on rounded cups, apart from those already cited from Messenia, which may in fact be MM IIIB Kytheran or Cretan imports. A type of Vapheio cup decorated with Ripple that is very widespread in Messenia, and also found elsewhere, is clearly later, belonging to late LH I and LH IIA at Nichoria (McDonald and Wilkie, eds., 1992, 475, 481, and, for a complete example, 227, fig. 4-24:P3001). Although it displays a continuation of LH I traits such as the unslipped interior and hollow inside the rib, a remarkable instance of following tradition in workshop practice, it has the flat base and flaring upper body of the Type III form (Fig. 1.1:f, from Hagios Stephanos).

This rarity of Ripple decoration is not the only example of what seems to be a deliberate choice on the part of the founding potter(s) of the LH I workshops, which may reflect responses to mainland tastes if the earliest pieces classified as LH I are in fact to be considered Kytheran LM IA. It was evidently a deliberate decision to concentrate on producing a range of small shapes, of which only one, apart from the cup shapes already mentioned, was actually of Minoan origin—the hole-mouthed jar (FS 100). The jugs and jars, known in the LD

medium-coarse and coarse fabrics and well represented at Hagios Stephanos (Zerner 2008, 203–205), where they parallel Kytheran types, were otherwise ignored. So too were bowls and basins, although the "in-and-out bowl," a Knossian MM IIIB innovation, was popular at Kastri. As a natural consequence, the medium-coarse and coarse LD fabrics were not produced in LH I, although pieces of relatively fine fabric can be dull in appearance, probably because they are unburnished (McDonald and Wilkie, eds., 1992, 474).

The most common LH I closed shapes, the small piriform jar, alabastron, and squat jug (FS 27, 80, 87), have no obvious Cretan or Kytheran ancestry, but they seem to be local developments that share features of their shapes with each other and with other small vase shapes showing some Aegean traits, all produced on the mainland in fine wares at a similar time (Mountjoy 1993, 32–33, fig. 19; cf. Dickinson 1974, 113–114). They are rare in domestic contexts (e.g., Taylour and Janko 2008, 369) and not particularly common in graves, and where precisely they were developed remains unclear. They may well have been incorporated in the style at a developed stage, for no examples decorated with early-looking motifs like Ripple or "metopal spirals" are known to me. In what follows I shall be using Mountjoy's helpful terminology for motifs, many of which were not distinguished as variants by Furumark (Mountjoy 1999, 69, fig. 9 caption).

The characteristic LH I Vapheio cup motif is the "tangent spiral" in which dots, or more rarely circles or other small motifs, flank the tangents linking the spirals (Furumark Motif [FM] 46:29; see Furumark 1941; Figs. 1.1:d, e, 1.2:a). This type is ubiquitous, even reaching Kommos (Watrous 1992, 155, pl. 46:338). The motif can be found on other LH I shapes and typifies the strong LH I preference for motifs that go round the vase in a horizontal register, as well as the similarly strong liking for framed motifs that are linked by diagonal tangents or curving loops (called "linked" motifs by Mountjoy 1999, 69, fig. 9:d, e; cf. FM 46:9–11, Fig. 1.2:c). These frames, of thick banding forming circular or near-circular shapes, often contain spirals, but equally they may be filled with cross-hatching, small circles (an early form of the "stone" pattern FM 76), or other geometric motifs; alternatively they may contain stylized blooms attached to the inside of the frame, a strip of foliate band (cf. Mountjoy 1999, 69, 81, figs. 9:b, 10:9), or rosette-like "urchins" (Fig. 1.2:d). Sometimes framed spirals and filled circles may be linked in one motif (as on Mountjoy 1986, 12, fig. 3:1). Such patterns seem more common on rounded cups and smaller closed shapes than on Vapheio cups, but they are very characteristic of LH I.

In the liking for spiral patterns, LH I seems particularly close to Kythera, where spirals appear on Vapheio cups, as they do not, except for one specialized form, in Knossian LM IA (Hatzaki 2007, 176). The best parallels for spiral and circle motifs on Vapheio cups can be found in Kastri Deposit η (Coldstream and Huxley, eds., 1972, pl. 29:1–3, 5, 9–11, 16); the practice of flanking tangents with big dots or blobs is noted to appear in a later stage of the deposit (Coldstream 1972a, 115). But at Kastri the framed type of spiral is not overwhelmingly common, nor is the customary blob or eye at the center of a LH I spiral, so some other explanation may be needed for the popularity of these features on the mainland. Possibly inspiration was provided by the registers of framed spirals and filled circles linked by tangents and/or loops that are found on elaborate East Cretan LM IA vases (e.g., Betancourt 1985, 132, fig. 100:A–F), although imported examples with this kind of decoration have not been securely identified on the mainland. A simpler but more neatly drawn form of linked spiral, also attributable to LH I, is unframed and flanked by small dots (Mountjoy 1986, 13, 15, figs. 5:1, 8:5). But this pattern is relatively rare, occurring most often on squat jugs, and it resembles more what is found in somewhat later deposits, overlapping into or contemporary with LM IB (Coldstream and Huxley, eds., 1972, pl. 32:ι 20, κ 9). The framed types are dominant, and it is no surprise that one of the principal motifs of LH IIA domestic ware is an elaborate arrangement of framed linked spirals (Mountjoy 1986, 32–34, figs. 31:5, 32:1, 34:2; cf. Dickinson 1974, 110, fig. 2, farthest left).

A second major class of LH I motifs consists of variations on the theme of the foliate band (FM 64:1, 4). Normally these too are arranged horizontally, although vertical examples, in bar-flanked panels, are known, especially on closed vessels. The original form consists of one or two bands to which stylized leaves are attached on either side (Fig. 1.2:e), and this, again, has parallels in Kastri Deposit η (Coldstream and Huxley, eds., 1972, pl. 29:12, 13, 17). On the mainland, however, more

elaborate forms are found in which the stylized leaves are replaced on one or both sides by more naturalistic leaves or blooms (Fig. 1.2:f; cf. Ålin 1968, 91, fig. 2:1, 2, a rounded cup from Asine), or on one side by a different motif altogether, such as a wavy line, linked circles, or row of crosses (Fig. 1.2:g; cf. Mountjoy 1999, 253, fig. 82:10). Again, a liking for foliate bands could relate to their use on some of the elaborate East Cretan vases previously referred to, but, although these may make the leaves more lifelike, it seems to be a purely LH I development to replace them by more bloom-like motifs or pair them with geometric patterns.

Stylized bloom-like patterns, resembling what Furumark classified as crocus (FM 10:3), might be used as filling for framed circles or arranged in a row of isolated examples, sometimes all having the same orientation, sometimes alternated (Fig. 1.2:h). Motifs that are more clearly flowers can also be used in this way (Mountjoy 1993, 36, fig. 32; 1999, 81, 84, figs. 10:12, 11:20). This particular decorative motif has a noteworthy parallel in the dagger from Shaft Grave V that is inlaid with alternating lilies; the dagger fragment with inlaid single-bladed axes, reputed to be from Thera, is a more distant parallel (Dickinson 1997, 45). Other motifs can be arranged in isolation in the field, and two may be alternated (Fig. 1.2:i; e.g., Mountjoy 1986, 13, fig. 5:3, 4; 1993, 36, fig. 31). Good examples of these particular variants have been found on Vapheio cup fragments from Asine, along with a rare motif something like a running floral spray, including ivy leaves (Ålin 1968, 89, fig. 1:1–3). Finally, there are rare examples of decoration with linear motifs that seem closer to painted patterns prevalent in MH wares than to anything Minoan (e.g., Mountjoy 1993, 36, figs. 34, 37). All these seem to be specifically mainland developments with no obvious parallel on Kythera, let alone in Crete. In contrast, it may be noted, the reed pattern that is a staple of mature Knossian LM IA makes virtually no impression on LH I and is rare at Kastri also (Coldstream 1972b, 291).

It remains to note that larger closed vessels were certainly being produced by the end of the LH I phase, mainly types of jars. The best-known example of the pithoid jar (FS 14), from Shaft Grave V (Mountjoy 1999, 81, fig. 10:1), and its close parallel from Peristeria Tholos 3 are decorated with registers of framed spirals that are simply enlarged versions of the common small motifs. The development of this shape into an intentionally monumental form seems to be a particularly mainland feature. A smaller but still substantial jar from Voroulia (h. 27.5 cm) is decorated with oblique "racket trees" alternating with foliate bands (Korres 1976, 278, pl. 182:α, restored in Lolos 1985, fig. 669:a), and there are fragments of large hole-mouthed jars with vertical foliate band patterns (Mountjoy 1986, 13, fig. 6:6, 8); these attest to the mainland liking for plant patterns on large vessels that was to be such a feature of "palatial" LH IIA.

Although most examples of the "racket tree" pattern (FM 63:10, see Mountjoy 1986, 11, fig. 2) are datable to LH IIA, the Voroulia vessel belongs to what seems to be a homogeneous LH I deposit, including many whole vases, and so provides welcome evidence for the pattern's early introduction. Nevertheless, the source of the hatched loop or "racket" motif itself remains something of a mystery. Although it might seem likely to be Minoan, the somewhat similar petaloid loops in "Kamares" decoration (Walberg 1976, 188, fig. 43:12, esp. 1–6) seem too early to be a plausible source, and anything resembling the pattern that dates closer to LH I is hard to find in Crete or Kythera (Mountjoy [1993, 52] cites a LM IA example on a jar from Pseira; the example from Hagia Triada cited by Coldstream [1972b, 290] as LM IA is misdated, being either an imported LH IIA squat jug of a well-known type [Mountjoy 1986, 25, fig. 21:1] or a local imitation).

As with the range of small closed shapes, it remains uncertain where on the mainland these innovations were developed. Examples of some can be found at Hagios Stephanos, although framed patterns, apart from the tangent spiral, are surprisingly rare. Lolos has argued that there was a major development of plant patterns in Messenia (1985, 529–530), but his argument is based on a few pieces, all from Voroulia, the jar already mentioned, and two Vapheio cup fragments with lily decoration (Korres 1976, 273, fig. 2:δ, ε; Lolos 1985, fig. 115). There is nothing to show that these are generally older than the quite elaborate examples of plant patterns in the Argolid previously noted. In general, although examples of each of the distinctive types of motif can be found in the Argolid, south Laconia, and Messenia, the more unusual forms are not common at otherwise productive

sites like Hagios Stephanos and Nichoria. But the total quantity of finds is so limited that a single new domestic deposit or well-supplied grave could alter the picture significantly.

Conclusions on the Development of LH I

Thanks to the new evidence that has become available and the clarification of the relationship with the Kytheran sequence, it is possible to say something more about the development of LH I than I did in the past (Dickinson 1974, 119), but many questions remain. The links between the LM IA of Kastri Deposits ζ and η and LH I are so strong that it must seem possible that what has been taken for LH I, and often placed early in the style, as with examples of metopal spiral decoration, may in fact be imported Kytheran pottery. Even so, the continuing uncertainty over whether the LD ware widespread in the eastern Peloponnese in the MH period, especially at Lerna and Hagios Stephanos, was entirely a product of Kythera, or whether there was a subsidiary workshop in the Argolid, or whether, indeed, it can truly be considered certain that it was not produced in south Laconia means that the ultimate origins of LH I remain obscure.

Unfortunately, there is not enough stratigraphy at Hagios Stephanos to document the initial stages, nor at Nichoria, although one deposit there that seemed to be definable as early LH I, from K25 Rcd, did look distinctly different from the better-preserved deposit of Area IV SW (McDonald and Wilkie, eds., 1992, 473–474 on definition, 521 for cataloged pieces P3032–P3041). Nichoria is useful in another way, however, in seeming to confirm that, although LH I is well represented at many Messenian sites, there was no LD tradition preceding it, although evidence of this might well have been expected at Nichoria in particular because it would be more easily accessible from Kythera than major sites farther west like Pylos. This absence and the generally uninspiring range of Messenian MH pottery documented at Nichoria make it most unlikely that Messenia should have been the base for the workshop(s) that took the decisive steps in creating LH I.

Equally, the material from Hagios Stephanos, scrappy and often out of context as it is, seems sufficiently copious that one might expect to find examples of early versions of the typical shapes and "transitional" pieces generally. But they are hard to identify; as noted above, even recognizably early forms like the Type I Vapheio cup are not common. Although in many ways it might seem logical that the earliest mainland workshop should have been in a place with a long tradition of importing Kytheran pottery, this lack of early forms fits with the analytical work that seems to throw doubt on south Laconia as a source of LD ware and of LH I.

Only the Argolid is left, and whether or not the LD wares found at Lerna were produced there, it must seem likely that the developments that finally separated LH I from Kytheran LM IA took place in the Argolid. To recapitulate, one of the most significant of these was the creation of a range of small closed shapes, particularly popular as grave goods, in addition to the two main cup types, the Vapheio and rounded cup, that were already dominant in the Kytheran assemblage. Given that in and near the Argolid many small fine vessel shapes were being produced in late Matt-painted, light-on-dark, and plain burnished wares, this is not so surprising. The founders of the style also developed a range of motifs that more clearly derive from Minoan origins than the new shapes, but they also showed a readiness to experiment, as with the complex of foliate band-related patterns, so that the decoration coalesced into something quite distinctive. There is an intriguing possibility that some of the most distinctive motifs were adapted from the decoration of large Minoan, even perhaps East Cretan vessels.

This incorporation of larger, often intentionally monumental shapes was probably the latest development; but it is likely to have taken place before the highly characteristic range of LH IIA small decorated vessels had fully evolved, though it might well overlap with their beginnings. As with all these early phases, more evidence from domestic deposits is desperately needed (it is to be hoped that the imminent publication of the stratum VI material from Lerna will provide some help here).

These developments surely took place over a rather longer period than the generation or so that

I originally envisaged (Dickinson 1974, 119), although it remains hard to imagine them taking the length of time that the "long chronology" advocated by Manning and others would require. Here I feel bound to criticize the custom of allocating the whole 16th century B.C. to LH I, even in the "low chronology"; this might well represent almost the whole period over which the grave circles at Mycenae were in use, but these quite clearly began well before the appearance of LH I as I have defined it, and even before its immediate LD precursors. Once again, there seems to be a confusion here between the use of LH I as a stylistic term and as a chronological one, which might well be used to include the period when perceptibly "Mycenaean" phenomena first appeared. As it is, the LH I style, depending as it does on a developed stage of Kytheran LM IA, which must itself owe something to Knossian LM IA, should have begun well after LM IA did in Crete and Kythera. That it appeared so relatively quickly in south Laconia and Messenia, also reaching western Attica and occasionally central Greece, and became quite widespread in the Aegean and beyond, as far as the central Mediterranean, draws attention to the increasingly complex network of interconnections between old and new centers of wealth and power in the Aegean and elsewhere that was developing in this exciting period.

It may also suggest that LH I began as something of a "prestige ware," perhaps because of its closeness to Minoan prototypes. That it was rare and valued might explain why its early occurrences often take the form of single depositions in graves. Examples can be found in greater quantity in domestic deposits, as at Voroulia and overseas sites such as Phylakopi and Akrotiri in the Aegean and the Lipari islands and Vivara in the central Mediterranean. Yet it is noteworthy how many of these pieces are from a single shape, the Vapheio cup, as is also the case at Hagios Stephanos, Nichoria, and, to judge from the published material, Pylos. The initial concentration on drinking vessels and small containers that may have held valued substances is another indication of its special nature. We may suppose that, as demand for it grew, its makers widened their repertoire, progressively driving other decorated wares out, although there was continued production of large closed vessels like amphorae and hydriae, decorated in styles that ultimately derive from MH matt-painted traditions. Nevertheless, as is becoming increasingly clear, the Mycenaean decorated style seems to have taken a long time to become fully established north of the isthmus of Corinth. We will probably never know all the factors that were behind its development, but it is fair to say that its originators established a tradition that would endure and come to dominate an increasingly wide area of the Aegean for centuries, and extend its influence to several other parts of the Mediterranean.

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CHAPTER

2

Wine, Women, and Song . . . The LH IIIA:2 Kylix at Petsas House, Mycenae

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Too many years ago, in the office of my undergraduate adviser, I fell in love with the orderly, serious, "good neighbors," the Mycenaeans, rather than the fun loving, free-spirited, "best party-buddies," the Minoans. However, the more I got to know the Mycenaeans, from the inside out practically, the more I recognized their whimsy and humor, life-loving and life-celebrating nature. Then I loved them even more. While still a student, I learned about "the best period" of the Mycenaean civilization ("best" being determined on pottery styles of course)—the Late Helladic (LH) IIIA:2 period, and I learned about Cynthia's "all time favorite Mycenaean vase"—the LH IIIA:2 kylix. I could not have agreed more either, then or now. It is one of many things we share (along with "Shel" surnames, where I always get a tickle following right after her in bibliography and lists of Aegean prehistorians). Therefore, it is with tremendous joy that as a "grown-up" archaeologist I have been blessed with a site at Mycenae that is full of LH IIIA:2 pots, especially kylikes, and it is a thrill as well to share some of them with my teacher.

LH IIIA:2 Pottery

Fine ware decorated pottery is a hallmark craft and resource of the Late Helladic mainland, especially in the Argolid at Mycenae and other certain or potential centers of production in its

orbit, such as Berbati and Prosymna (Åkerström 1968, 1987; Mountjoy 1993; Shelton 1996; Schallin 1997). Late Helladic IIIA is a period of prolific vessel production and of innovative functional styling amid an increasing standardization of types. The mass production of pottery begins as a result of higher consumer demands, and the quantity manufactured is remarkable. The outcome is a trend toward the increased formalization of shape and standardization in the overall decorative scheme and in individual motifs (French 1964; Mountjoy 1981; 1993, 63–64). There is a very pleasing combination of perfected technique, streamlined characteristics, and design scheme, together with a continuation of earlier LH II originality and diversity. This combination of trends, seemingly at odds with one another, marks LH IIIA as transitional between the more Minoan influenced LH II pottery and the quintessential "palatial period" Mycenaean pottery of LH IIIB (Mountjoy 1993, 80–81). The corpus of Mycenaean pottery in LH IIIA:2 is exceptionally large. Our evidence comes mostly from tomb deposits, however, so we should imagine greatly expanded quantities if we had more of the contemporary settlement material evidence (Wace 1932; French 1965; Holmberg 1983; Mountjoy 1993, 71; Shelton 1996, 284–289).

The use of a great variety of shapes for drinking vessels suggests a complex function of "drink" in society, potentially at different levels (Shelton 2009; 2010, 193–195). Functional variety is apparent even among the decorated fine ware examples that are a proportional minority among the full shape range of fine ware vases. This diversity contrasts with the lesser variation seen among undecorated examples that make up the highest quantity of consumption vessels. The large amount of undecorated pottery exhibits a good deal of standardization and much less variety in shape, which may well indicate a more straightforward function. Complexity is more evident among decorated drinking shapes that are, on the one hand, more specialized, but on the other hand more diverse. If these examples ended up on the more exclusive tables and in the smaller proportion of elite hands, then we are looking at numerous use patterns but at the same time, specialized or symbolic function within individual types. These consumption vessels, both decorated and undecorated, include cups, shallow and deep, with or without carination; mugs; bowls; and of course, the kylix, in a variety of profiles and decorative schemes (e.g., Furumark Shape [FS] 256, 257, 264, 267, 272; Furumark 1941), which becomes the most popular vase of this phase (Mountjoy 1993, 71).

A Production and Storage Context

The excavation of Petsas House (Fig. 2.1) in the settlement of Mycenae to the northwest of the citadel was first undertaken by the Archaeological Society of Athens during several months in 1950 and 1951, when a series of rooms filled with ceramics was uncovered (Papadimitriou and Petsas 1950, 1951). Excavation was renewed in 2000, and the work of each season since has revealed a structure or building complex of several levels with additional evidence for habitation, pottery production, and storage (Iakovidis 2000; 2001; 2002; 2003; 2004; 2005; 2006; 2007; 2008; Shelton 2007; 2009; 2010, 189–193). The overall impression of the character of Petsas House and its artifacts is one of high-level organization and use for ceramic production, storage, and distribution on a large scale. The pottery provides overwhelming dating evidence that places the building's destruction toward the end of the LH IIIA:2 period, conventionally dated to the late 14th century B.C.

The pottery of Petsas House is important for the study of ceramics, especially in LH IIIA:2, stylistically and otherwise, for example, as a production and storage assemblage that potentially demonstrates the level and nature of consumer demand—the quantity and variety of vases necessary to be in production, in storage, and available for consumption in any or all use contexts. Because of the variety of wares and vessel types available, together with the vastly different levels of production values in practice, I believe that the ceramics produced by the potters at Petsas House reflect the population-wide consumer interest, while also exemplifying admirably the nature of the changing relationship among the strata of society and the effects of production and consumer strategies in ceramics

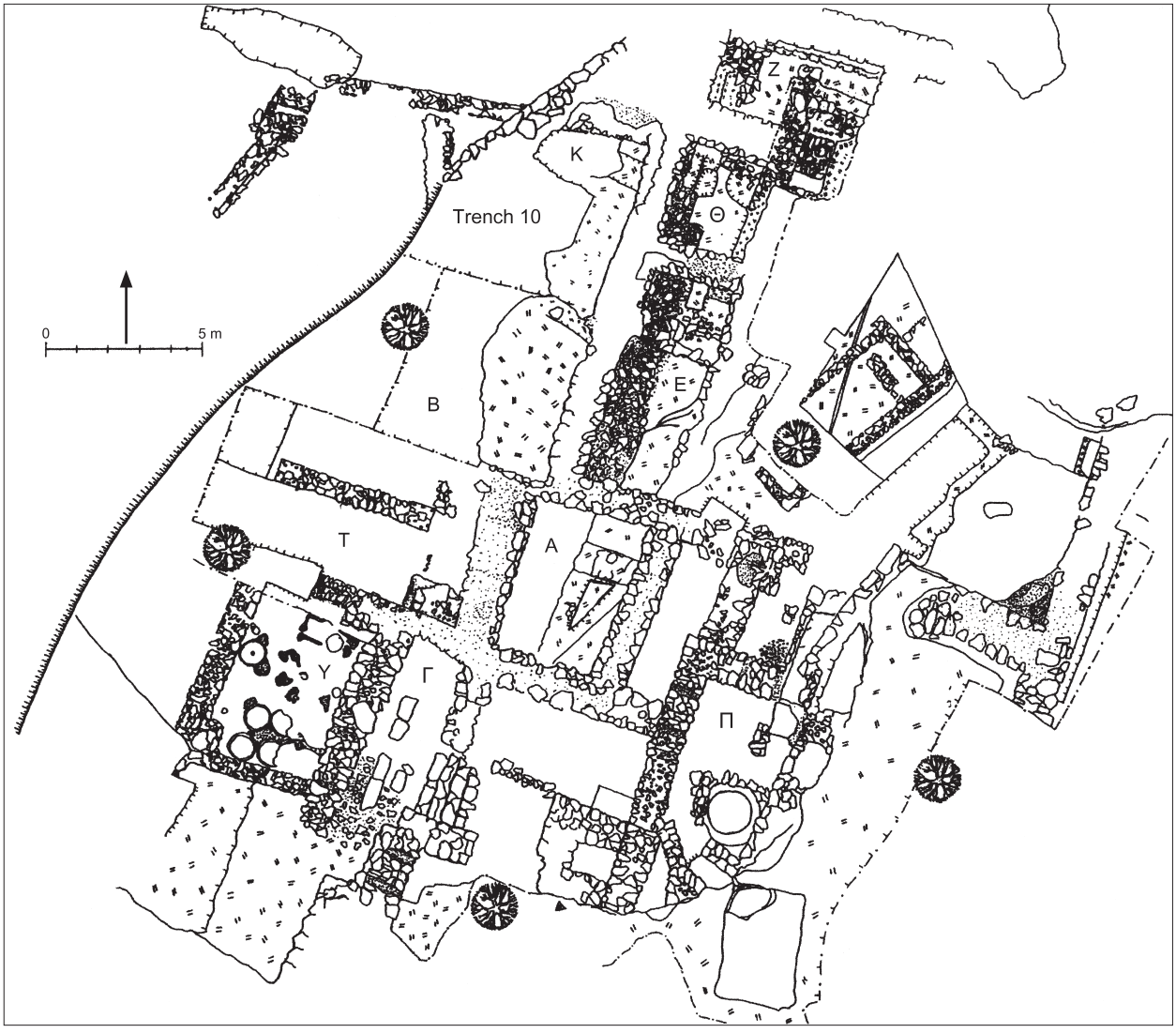


Figure 2.1. Plan of Petsas House, Mycenae, indicating storerooms A and E, Room Π with circular feature/well in southeast part, and other areas. Drawing © K. Shelton.

(Shelton 2009, 2010). Among a diverse corpus of LH IIIA:2 vessels for drinking, the kylix stands out as the most abundant form, in number and in diverse versions of the basic shape in production, as well as being simultaneously one of the most beautiful and one of the ugliest pots from Petsas House.

At the time of its destruction, Petsas House contained perhaps as many as 8,000 kylikes, only a small percentage of which survived intact. Over 95% of these kylikes were undecorated, and roughly two-thirds of those were of the carinated variety (FS 267; Fig. 2.2:left). The vast majority of the examples excavated so far come from a single context—a secondary deposit of debris. The debris resulted from the fiery destruction of the building

Figure 2.2. Kylikes shown in three different sizes and two shapes: carinated and rounded bowls. Photos A. Carter, © K. Shelton.

and was dumped into a well during a recovery and/or cleanup effort immediately after the destruction. The rest of the kylikes come from several primary deposits, fallen within the rooms in which they had been stored on wooden shelves. Based on ceramic joins, it has been demonstrated that the vases in the well dump also originated from many of these same ceramic storerooms.

Storerooms

Most of the rooms excavated in the 1950s were storerooms for new vases that were found broken on the floors and were originally on wooden shelves stacked or arranged by shape and size. Apotheke A (Fig. 2.1), the first to be excavated, had over 500 vases of 20 different shapes on three sides of the room (Papadimitriou and Petsas 1950). Almost all of the vases were decorated, and the vast majority were closed fine ware storage vessels (stirrup and piriform jars of at least three graduated sizes). A number of open shapes were also present, and most of those were decorated. The common characteristic of the vases in Apotheke A is the overwhelming emphasis on the piriform, or "pedestaled" profile, whether in the sharply incurving lower bodies of the jar or kalathos or the slender concave stems of the kylix. Apotheke E, adjacent to the north, in contrast, was filled with vessels in undecorated fine ware, almost all for drinking and serving (kylikes and stemmed bowls), and many of extra-large size (Papadimitriou and Petsas 1951).

Room Π, the Well

The largest number of kylikes so far comes from another context, but one clearly related to the others in storage. A circular feature (1.46–1.86 m in diameter) encountered in the 2001 season is a well. It is cut vertically in a mostly rectangular shaft (1.5 m x 1.1 m) out of the bedrock within the south end of Room Π, an industrial use area (Fig. 2.1). The well was excavated to a depth of 12.35 m during the 2002–2007 seasons. The deposit is characterized by a fill of moist reddish-brown soil together with fragments of charcoal, burned mudbrick, and frescoes. The elements of building debris were mixed with animal bone, clay, a vast quantity of pottery, and other small finds of ceramic, stone, and glass. The deposit was the result of a single extended cleanup event after the destruction of the building. The majority of the pottery is undecorated fine ware, especially open vessels: kylikes, conical cups, and shallow angular bowls predominate. A vast range of kylix types have been recovered, with a wide variety of shapes and sizes, decorated as well as undecorated, including unusual examples with two vertical "loop-handles" and with horizontal handles. The deposit extended through the entire depth of the well with the same overall character of fill and remarkable pottery content. It also preserved its own internal stratigraphy of vase types, qualities, and functional categories, alternating with debris from the structure itself.

Kylikes

In Petsas House kylikes occur either undecorated or decorated (polished, monochrome, and patterned types—even an occasional pictorial motif), in sizes ranging from miniature to practically monumental, and can be interpreted as ranging from scruffy mass-produced throwaways to individual works of art (Fig. 2.2). Kylikes are of course meant to be functional, primarily for the consumption of a liquid that is usually wine (Tzedakis and Martlew, eds., 1999, 176–177). According to archaeological evidence, kylikes were used in many functional contexts including obviously domestic ones, but

they were popular and necessary on a different scale for feasting and ritual (Mountjoy 1986, 204–205; 1993, 63–64; Wright 2004a; 2004b). Depending on form, size, and volume, the kylix could be either a personal vase used by an individual or a group consumption vessel, passed among participants. The shape was first developed in LH IIIA:1, and by LH IIIA:2 it had quickly become one of the most numerous consumed shapes among fine ware (Galaty 1999a, 1999b, 2010). The kylix developed from the earlier deep-bowled and short-stemmed goblet as a more elegant and delicate vessel, especially in decorated versions either highly polished or painted. The variations in fabric, size, and quality of production and/or decoration indicate complex uses in aspects of individual, everyday life and in the traditions of burial and memorial, as well as in communally practiced social and religious ritual (Mills 1999, 99, 102; Dabney, Halstead, and Thomas 2004, 83; Wright 2004a).

The kylikes from Petsas House can be examined in groups based on at least four criteria: shape, size (scale/volume), execution, and decoration (Shelton 2009; Carter 2010).

Shape

Kylikes fall into one of two large shape categories: those with a rounded bowl profile and those with an angular or carinated profile (Fig. 2.2). Many varieties of shape exist within the definition of "rounded bowl" kylikes (Figs. 2.2:center, right, 2.3, 2.4), in contrast to the carinated profile, which is really a single type with only subtle differences in the finer details (Figs. 2.2:left, 2.5:left, 2.6, 2.7). However, the carinated kylix vastly outnumbers the rounded kylix in all its variations, as much as two to one. The distinction between rounded and carinated bowl profile is clear (cf. Fig. 2.6:a–c with 2.6:d) as is the number of handles—two for the rounded kylix (of many forms, see below), and one for the carinated kylix. Another clear difference is that rounded kylikes can be, and often are, decorated in some fashion (Fig. 2.7), while the carinated kylikes are not.

The rounded bowl kylix develops from the earlier stemmed vessel tradition of the goblet and presumably serves the same long-established function, while the carinated kylix (FS 267) is a new shape in LH IIIA that must have answered a specific new need among the drinking population. The carinated kylix also seems to represent a class of fine ware ceramic production that was truly industrial in nature, being produced in massive numbers at a very basic and standardized level (for production quality, see below). Variation among carinated kylikes is exhibited in the auxiliary details such as lip shape, angle of carination, stem length, and profile; they generally seem to be haphazard, nonstandardized features that resulted from the speed of production and manufacture by many different potters (Fig. 2.6:a–c). The overall formalized shape and size resulted in a consistent volume measure that would suggest a narrow and exclusive use (Carter 2010), as would their rather late arrival in the corpus. Carination could have been used as a measuring line for ease of filling, or it may have been decorative—to give a closer impression of a metallic profile. Examples of silver carinated kylikes were found in the tholos tomb at Kokla, for example (Demakopoulou 1990), but even these metal versions seem less well made and more "lower class" than the rounded bowl version in either metal or clay. Even in undecorated fine ware, the rounded bowl kylikes are overall better made, with higher quality clay and larger size and capacity.

These two large categories of kylix, rounded bowl and carinated, should have performed essentially the same function since they are more similar than not in their overall design, but variation in other characteristic features may suggest some differences as well. The number of handles is an obvious feature that affects how the consumer would have interacted with the vessel. The handle shape could also have been a factor. The way in which the drinker would have handled these two vessel types may have been different. Handles in many cases were small (oval strap in section) and difficult to grasp properly, especially by larger digits. A single handle is truly a marker of individual use. Two handles, especially if small ones, may also have been intended for a steadier grasp by one drinker or to make passing from one participant to another that much easier.

Handle manufacture is one feature in which the decorated examples exhibit a much greater technical quality. There are always two handles, and they are both very carefully formed and attached with care. They are round or oval in section, with a few retaining the vertical metallic groove down the

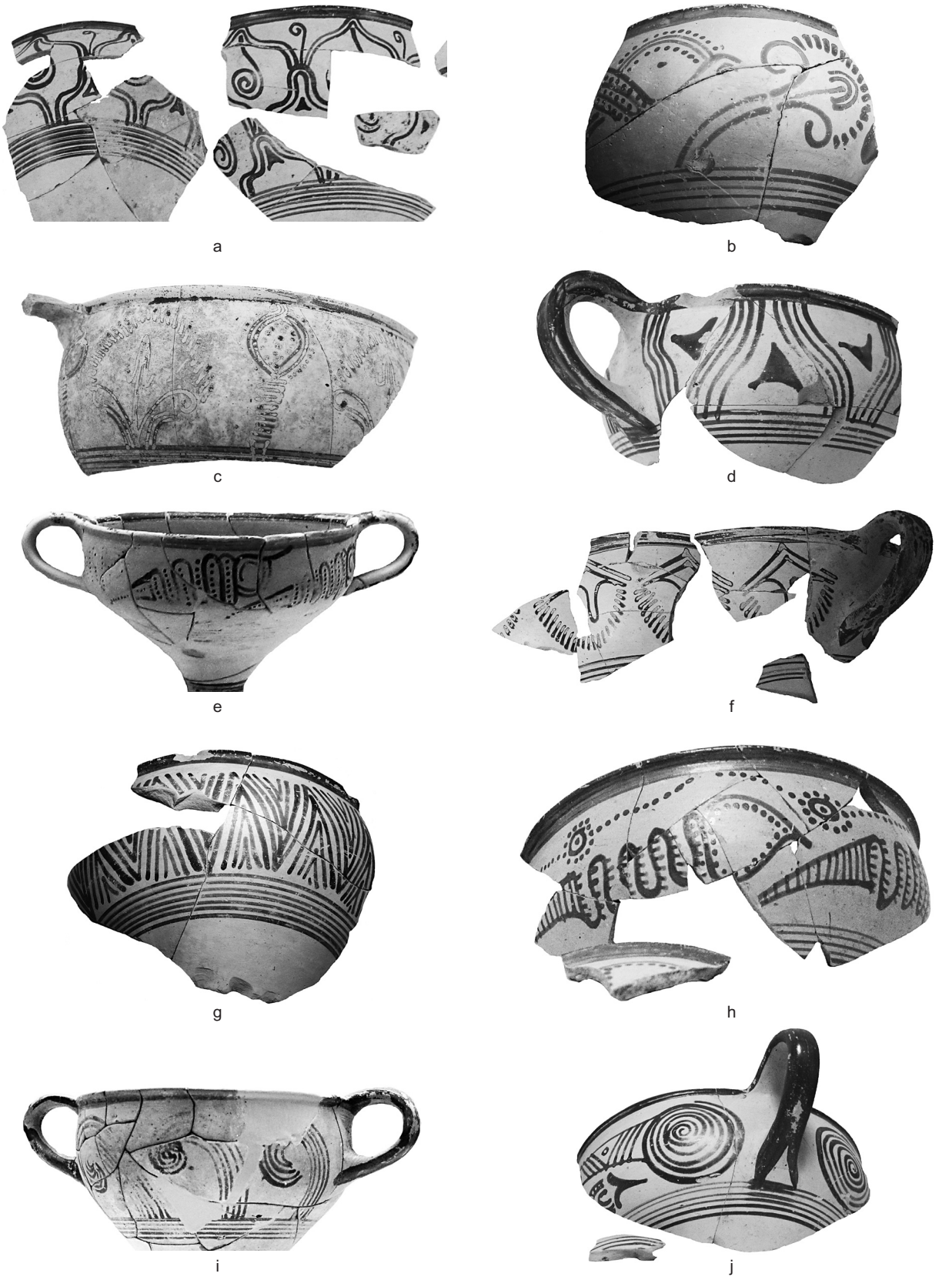
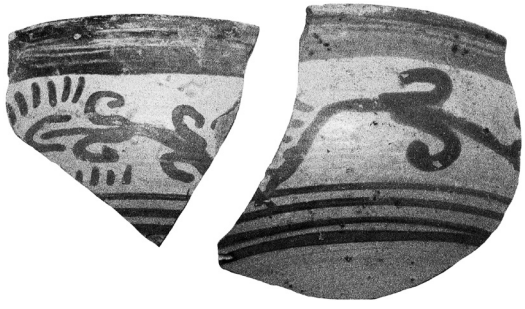


Figure 2.3. Decorated kylikes from Petsas House (FS 257) illustrating the variety of motifs in use. Not to scale. Photos © K. Shelton.

a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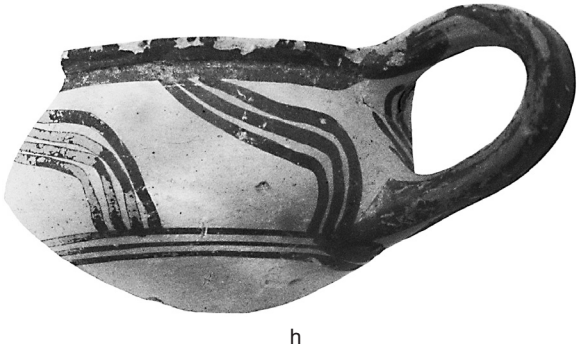
h

i

Figure 2.4. Miniature kylikes from Petsas House, decorated and undecorated examples. Not to scale unless indicated. Photos © K. Shelton.

Figure 2.5. Extra-large rounded bowl kylix displayed as a serving vessel along with dipper and carinated kylix. Photos A. Carter, © K. Shelton.

center or the "horns" at the top that could have facilitated a better grip. The decorated kylikes are all rounded bowls in shape and generally similar to one another in size and volume with a few subtle differences in the profile and rim.

Execution

Execution refers to the production values and quality of the kylikes, especially the process of manufacture, quality of material, surface treatment. Obviously, the undecorated kylikes are as a group less well made than the decorated examples (cf. Fig. 2.2 with Figs. 2.3, 2.4). The level of execution quality varies in direct relation to the quantities produced. The more mass-produced shapes exhibit less time and effort expenditure, and they are therefore inferior in execution to the kylikes, especially the decorated ones, that were made in small enough numbers to be carefully and individually produced. At Petsas House, the carinated kylikes were universally produced with a poorer level of execution than the rounded kylikes, and many exhibited failures in execution (Carter 2010).

The rounded bowl kylikes of all sizes (see below), including the undecorated types, are more carefully produced and finished than the carinated examples (Fig. 2.7). A variety of clays were used in both bowl types—some clearly of better quality than others (Galaty 1999a, 2010). Each undecorated example was only somewhat roughly smoothed on the surface with a sponge or piece of material or leather. Only in rare examples, especially larger rounded bowl pieces (Figs. 2.5, 2.7:a), does the surface appear finished or even "slipped." More often than not, tool marks or signs of the manufacturing process remain on the surface. Interestingly, fingerprints were rarely left on the surface of even the roughest examples and usually resulted from grasping the vase before firing rather than from contact in the throwing or finishing process, unlike later examples from other sites (for Pylos, see Hruby 2006).

The overall unfinished quality of the undecorated kylikes is completely different from the surface treatment of the decorated examples, even those examples without paint or glaze. In fact, the quality of the surface treatment determines into which category (decorated or undecorated) they should be placed. Some undecorated kylikes, especially carinated ones, are very poorly made. Many do not stand on their own, and a surprising number have holes in them. They appear often to have been rather roughly handled, on and off the wheel, causing secondary structural issues (dents, pinches, tilting profile), and often they were not fired in an ideal environment, resulting in a significant number of misfires (either too soft or too brittle and vitrified). The frequency of these issues can be explained by the production context. There is very little evidence of quality control, or even a desire for it, yet the misfired vases were collected from the kiln and placed in storage rather than left as "wasters" in kiln debris. Therefore, they must have been considered viable for use and/or sale. It is often hard to imagine the production of these barely functional and sloppy vases in the same place and by the same hands as the carefully produced decorated versions. We have assembly-line production with little need for mastery. The completion of large numbers of vessels seems to have been the goal. At Petsas House, the carinated kylikes make up about 80% of the open shapes. Ultimately, their functional quality was not of primary concern since even without holes they are the least impermeable of the kylikes. Symbolic function may have been equally

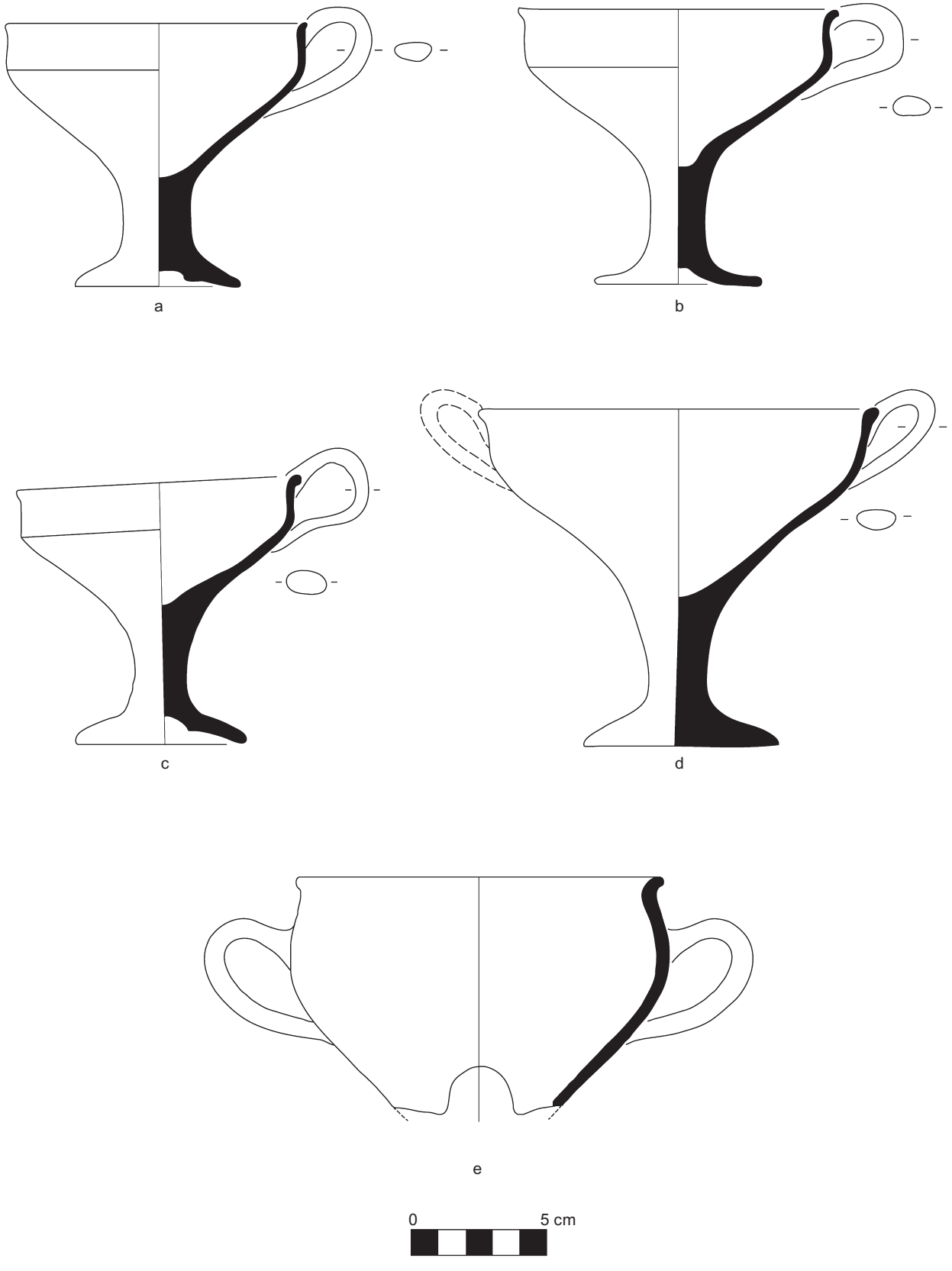

Figure 2.6. Drawings of kylikes from Petsas House: (a–c) carinated; (d) rounded bowl; (e) FS 269 with handles below rim.

Figure 2.7. Drawings of kylikes from Petsas House: (a) undecorated extra-large size; (b) decorated full size; (c, d) decorated miniature; (e) monochrome full size.

or even more important (Galaty 1999b; 2010, 236–237; Stockhammer 2009; Tournavitou 2009; Shelton 2010, 193–195).

Decorated examples, as a group, were both more carefully produced and more standardized in finer details and measurements (Fig. 2.3, 2.7:b–e). Undecorated kylikes, more standardized in basic shape and production quality, tend to exhibit greater differences in the little details. Decorated kylikes at Petsas House occur generally in a single hard and fine fabric with redder or browner hues depending on the kiln atmosphere. Many examples, especially with painted decoration, occur in the classic Mycenaean "pink-buff" fabric and with a consistent and unblemished, slipped surface, free of tool marks or signs of manufacture.

A particularly interesting group of decorated kylikes are those that I identify as having "polished decoration" (without any paint, bands, lines, or motifs). These kylikes occur in several shape variations (e.g., FS 269, 271/272; Fig. 2.6:e) and are the most technically beautiful. They exhibit the best production quality, better even than painted examples in many cases, with the surface slipped and highly polished, in some cases reaching a light burnish, resulting in a shiny, creamy effect all over. This decorative type occurs on a number of shapes very difficult to produce—extra-high stems, often very slender with an amazingly high center of gravity in a good-sized deep bowl, frequently with one or two high-swung "rabbit-ear" handles. Balance is very tricky but usually very successful. These polished kylikes do not exist in tremendous numbers, especially the very tall examples (often they are found in burials, complete or nearly so), while their difficult features probably led to more breakage.

This particular type of stem is so hard (indestructible) and of such large size that it is very frequently found reworked after breakage for use as a stopper, as seen with several examples at Petsas House. Most of the polished kylikes are very yellow in clay color, and some are shiny pinkish; both may have been imitations of metal colors. Elsewhere, a few of the tall-stemmed kylikes (FS 271/272) have been tinned, dipped in liquid tin to cover the clay surface in imitation of metal vessels (Shelton 1996; Gillis 1997), but not so far at Petsas House.

Size

Most of the kylikes from Petsas House, within each shape/type category, decorated or undecorated, are of the normal size for their particular type—thus, for decorated examples, approximately 15–18 cm high with an average rim diameter of 15 cm. Both the monochrome and polished kylikes tend to have about the same dimensions as the patterned kylikes, with the monochrome often closer to 15 cm high and the polished ones with much taller stems reaching to as high as 23–24 cm on average, but with the rim diameter still averaging ca. 15–18 cm. The volume of the standard-sized decorated kylikes is usually close to 750 ml, the volume of today's wine bottle.

Undecorated kylikes (Fig. 2.2) occur in a very standardized size, with the carinated type almost always 10–11 cm high (rims average 11 cm in diam.), with the very rare example in each dimension smaller by only a centimeter or two. The volume of the carinated kylix also seems extremely standardized, consistently averaging around 240 ml, or a standard cup measure. Undecorated rounded bowl kylikes, in contrast, occur in a vast range of sizes (7–25 cm high) with handle variety a direct factor of size/shape (Figs. 2.6:d, e, 2.7). The average rounded kylikes stand just above the angular ones at 11–15 cm and have a capacity of ca. 500 ml. Their volumes also have a reciprocal range depending on bowl size—as little as 100 ml to an astounding 2.74 liters (Fig. 2.5; Carter 2010). Among undecorated kylikes, however, there are substantially more extra-large examples than miniature ones (unlike decorated kylikes—see below). Really huge rounded bowl kylikes (20+ cm high) are generally well made but often very awkward because of their size, weight, and high center of gravity that frequently results in tilting or slumping in the leather-hard stage of production (Figs. 2.2:right, 2.7:a). These vases are comparable in size and execution to the large undecorated stemmed bowl or krateriskos and may have had a similar serving function (Fig. 2.5). However, the stemmed bowl was also produced in quantity at Petsas House, so the extra-large kylix would not be a logical replacement and may have had a different use. The size and especially the volume (2.74 liters or 3.5 bottles of wine!) of these vessels suggest they must have been communal, but passing them would have been very difficult, as they were dangerously heavy, even when empty.

Contrastingly, no extra-large examples exist among decorated kylikes. The largest decorated kylikes are polished and monochrome, approaching the scale of the decorated stemmed bowl (FS 304) while the pedestaled krater is even larger (FS 8). The average-sized decorated kylix predominates and is consistently standardized in size as also in most of the finer details of form such as lip profile, bowl shape/volume, and foot. The expectations and needs of the consumer were specific, even if the quantity of vessels available and in use were relatively limited. Nevertheless, the kylikes from Petsas House add significant evidence for the production of a large number of miniature, decorated kylikes (Figs. 2.4, 2.7:c, d), along with miniatures of several other drinking vessel shapes, for example, the one-handled bowl and carinated cup. The miniature kylikes are remarkable for a number of reasons, not least of which is their precise manufacture in such a reduced scale and in perfect proportion to their full-sized counterparts (FS 257). More than 15 examples have been identified so far. Most of them were recovered within 20 cm of fill in the well deposit and were clearly stored and discarded together. On average the miniature, decorated kylikes are 6–9 cm high (having rim diameters of 5–8 cm), with several examples remarkably smaller. Even so, they are exceptionally well made (on the wheel) and decorated. Only a very small number (<5) of miniature, undecorated kylikes have been identified so far. All are of a deep rounded bowl type with two tiny loop handles from the rim (Fig. 2.4:e). Like their larger counterparts, the miniature undecorated kylikes are only roughly smoothed on the surface. Both types of miniatures, decorated and undecorated, are too small to be truly functional. Although the execution

is good enough to hold liquid, the volume is very insignificant—never more than 100 ml and usually less—suggesting a truly symbolic intent.

Decoration

Only rounded kylikes occur with decoration (Fig. 2.3), and only the rounded kylikes have significant labor expended on their surface treatment, interior as well as exterior. There are no examples at Petsas House of carinated kylikes that bear decoration, even though the carinated vessels were made in the same workshop as decorated kylikes and in close proximity to the paint itself. This is demonstrated in several examples that have accidental paint splashes, drips, and even a set of paint-stained fingerprints.

Three categories of decorated kylikes can be identified based on the surface treatment: polished, monochrome, and patterned. The kylikes in all three categories are very carefully made with few outliers. The shapes, size, and scale are very standardized, and more similarities exist among individual examples of the shapes than among undecorated varieties. The polished style has already been discussed above under execution (e.g., FS 269, FS 272). These kylikes are actually the best produced technically, with the hardest walls and finest slip. They also resemble metal vessels most closely of all the decorated types. Monochrome examples, however, seem to evoke the same connection or impression. The best monochrome examples at Petsas House and in LH IIIA:2 more generally are red, with a few that are reddish-orange and others a striated dark brown. The shape is closest to the patterned examples (FS 257, FS 264) with wider strap handles, more like those of a krater. Only a very small percentage of all the kylikes at Petsas House are decorated, and among those, all three categories are about equally represented, with slightly more monochrome examples and slightly fewer polished.

Kylikes decorated with patterns (linear and motifs) exhibit high production quality, showing a general similarity and precision in shape and size, with both standardized decorative elements together with true originality of design, such as a diverse range of motifs (Fig. 2.3). The patterning of the kylix develops from the motif repertoire of the goblet, such as spirals (Furumark Motif [FM] 46; see Furumark 1941) and stemmed elements (FM 9/11/14), but it also displays a preference for repeated motifs or repeated elements of individual motifs instead of surface/facial patterns (i.e., e.g., net, scale). Favorite or characteristic motifs occur, such as the whorl shell (FM 23), but a great deal of original interpretation exists among individual examples and often even among motifs on the same vase. Diagonally rising elements from the zone base line to the field are popular, with a preference for left to right in more elaborate motifs and right to left for multiple stem (FM 19) and similar patterns. Vertical compositions also exist but tend to be contrasting rising and pendant motifs, elaborated if at all possible. Alternating and contrasting patterns—linear-mass, curved-angular, up-down, open-closed—clearly fascinate. Two exceptional pieces are decorated with early examples of the pictorial style: on one a row of ducks swim head to tail from left to right, and on the other curved-horn goats jump back and forth. The decorative zone is deep and covers much of the bowl, drawing the attention of the user and observer. The auxiliary, painted elements are clearly standardized at this point: a narrow band at and over the lip, fine lines below the decorative zone, and bands on the stem and foot, used to emphasize transitions of the shape and accentuate the decorative zone.

The miniature kylikes are truly very small-scale versions of their full-sized counterparts (Fig. 2.4). They are finished beautifully with a creamy slip and decorated in the identical standardized way with a similar if not identical range of motifs including spirals, flowers, and multiple stem. There are a few exceptions that carry a narrow band of repeated small motifs, such as N-pattern (FM 60) or foliate band (FM 64), drawn from the repertoire of small cup motifs perhaps because of the smaller relative decorative zone. It is interesting, though, that most of the patterns follow those of the larger version, in the same way that the execution is identical, regardless of the size differences, which makes one wonder whether the intended function was also just a scaled-down version of the normal use. The full-sized patterned kylikes can, and often do, appear as drinking sets with jugs and jars decorated in the identical fashion, but as yet no miniature jugs or jars have been identified at Petsas House with the same designs as the miniature kylikes.

Conclusions

The LH IIIA:2 kylix is amazing both for its diversity and its specialization. Standardization can be a result of routine and repeated action in the production of ceramics or of a deliberate intended feature in its design (Rice 1984; Longacre 1999, 44–45). Or, perhaps, it is a little of both routine and intent. Using the four criteria—shape, execution, size, and decoration—we distinguish two general classes of kylix: decorated and undecorated, where all criteria separate the classes and may suggest a different function or consumer group, at least symbolically. Clearly, the categories subdivide further and indicate a complexity of use and likely meaning as well. The different types of decorated kylikes suggest functions based on their relative exclusivity and probably their resemblance to metal drinking vessels and may well indicate levels of social class or rank. The patterned kylikes are more complicated, often a part of a drinking set, and they could indicate functional status and social marking in their own right. These are certainly the more exclusive of kylix types among the greatest variety of contexts. The larger number of undecorated kylikes in many contexts indicates a more popular and pervasive use. The two classes of undecorated kylikes at Petsas House suggest diversity of consumer need even among the masses. The rounded kylix was produced in a variety of sizes to enable drinking, serving, and symbolic offering for many members or groups of society. Some carinated kylikes were also apparently used as lamps and possibly scoops; a few are even made in cooking-ware fabric.

The functional contexts of these kylikes were both actual and symbolic; all types could operate in either way. Actual use contexts are the easiest to document and understand because almost all examples of kylikes were functional and occurred in most, if not all, cultural contexts, including domestic and specialized consumption as well as ritual action and offering (including funerary). But there were clear preferences for certain types in some contexts (Shelton 2009, 222–227). All classes could also be symbolic. Most obvious are those kylikes that were not entirely functional, either because of size or failures of execution (Carter 2010). Other examples may have been symbolic because they mimicked "higher" styles, including metal kylikes, or they allowed incorporation of larger numbers of participants in more exclusive acts (feasting, offering). As Knappett argues convincingly (2001, 84–85), pottery, especially kylikes, can be "politically charged" in certain consumption contexts, and although this symbolic weight may not be applied at the point of production, both consumer and producer would be aware of the desired intent (see also Galaty 2010 and this vol., Ch. 3). Certainly among contexts in the Argolid, some symbolic function of pottery can be identified. Control over images and symbols could help to position one in a society based on both hierarchy and a network of personal relationships. Material culture, including pottery, could be utilized symbolically to strengthen one's own social position (Stockhammer 2009). This may have included the intentional use of vessels that symbolized the next higher class, and in order to facilitate this, a dialogue between producer and consumer must have been maintained (Miller 1982).

The production of miniature kylikes suggests a truly symbolic function for either undecorated or decorated examples. The use of miniatures in ritual contexts is common in the Aegean over many periods. Their use was a symbolic gesture in place of a practical function, not always as a substitute but as a scaled down version of the more common full-sized kylix. The loss of function can intensify the ideological properties of the offering (Tournavitou 2009, 229–230).

Even if kylikes were used in many contexts, frequently and in an everyday capacity, they could still be assigned a symbolic status (Galaty 1999a, 76; 2010, 236–240; Shelton 2010, 193). The variety of wares and qualities available suggests a consistent need among a widespread portion of the population and at different levels of the social hierarchy (Parkinson and Pullen, this vol., Ch. 6). By late in LH IIIA:2, thousands of kylikes were produced at Petsas House for most segments of that population and for a variety of consumption patterns and functions (Mills 1999, 104; Galaty, this vol., Ch. 3). The volume is amazing, and the preponderance of low quality, mass-produced throwaways is certainly significant. There were consistent and standard types necessary for consumption by secondary elites

imitating those with access to metal vessels and for the more numerous folk reaching up from the lower rungs of society in imitation of the secondary elites. Whether incorporated activity or simply emulation, the use of ceramic kylikes would have become symbolically charged.

A more specialized or high-ranked domestic context can be seen at Pylos, where kylikes make up more than 50% of the total ceramic assemblage in the palace. Most of them are undecorated and exhibit the diverse types we have come to expect (Shelton 2010, 195 with references). Studies of storage patterns in the pantries as well as elsewhere in the palace also suggest different consumption contexts: an internal/domestic demand, serving the needs of the palace personnel, and an external demand, serving the entertainment/hospitality needs of external visitors to the palace (Whitelaw 2001; Bendall 2004; Hruby 2006). Although a century later in date, and obviously in a direct palatial context, the existence of these shapes, fabric types, and grades of execution quality in such large numbers is a clear indicator of an intensive production strategy and the number of kylikes needed to "have on hand" at any one time in the palace (Whitelaw 2001, 74–79). At the same time, the "royal potter" at Pylos (Hruby 2006; Galaty 2010 and this vol., Ch. 3) seems to have worked exclusively for the palace, producing only fine wares, while the pottery output at Petsas House includes a greater variety of wares and shapes needed by the wider community (Shelton 2010, 195).

Ritual consumption of kylikes is also important to consider. The kylix had prestige value and could be ritually charged. In many contexts, kylikes are indicative of ritual and feasting, often in emulation of such events in a more exclusive environment (Halstead 1999; Bendall 2004). Ceramic kylikes, in the many types produced at Petsas House, could be used by individuals at almost every rank of society who sought to be active participants and to achieve a higher status, whether through the display and use of a polished decorated kylix in imitation of a gold one or a rough-surfaced, undecorated kylix in place of a carefully patterned example. The mass-produced kylikes were well suited for groups with elite aspirations.

Drinking was obviously a central activity of feasting but could also be part of an independent ritual, such as for divinities or the dead. The participant, for affirmation of identity, would become enfranchised symbolically in a community that in past generations was more exclusively determined (Borgna 2004; Wright 2004a, 100; Wiener 2006, 5; Shelton 2009). Drinking is a social custom, and the consumption of alcohol is a rite of passage as an individual moves from one socially approved position to another, especially into a socially bonded group not based on kinship. Wine can be a social tool to test personality and its consumption a transitional experience. The kylix is the vessel of consumption and participation and the symbol of status.

The classes and types of kylikes in production at Petsas House and in use during the LH IIIA:2 period suggest diverse classes of individual drinkers. The relative quantity of the kylix types, either for restricted use or broader consumption (Carter 2010), indicates alternatively the exclusive or inclusive nature of the participant's status and the potential for the expression of status in material terms.

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CHAPTER

3

Potted at the Palace: A Reanalysis of Late Helladic III Pottery from the Palace of Nestor by Inductively Coupled Plasma Mass Spectrometry

Michael L. Galaty

Anyone who knows Cynthia Shelmerdine also knows how much she loves Mycenaean pottery, that from Pylos in particular.* And like dust from a sherd, that love has rubbed off on many of us. Cynthia has done a superb job of training a new generation of Mycenaean ceramic specialists, who have sat long hours at the sorting table under her tutelage. For Cynthia, and for many of her students, Bronze Age pottery is beautiful in and of itself—even the scrappy stuff found on survey. But she has rubbed off on us in other, equally meaningful ways. We all understand that ceramic artifacts provide a window on Mycenaean life, a glimpse of the social, political, and, perhaps most obviously, the economic functions of the Mycenaean state. I therefore offer this short paper in homage to Cynthia, but also with the hope of prying open that window a tad further. Cynthia will agree with and appreciate some, though not all, of what I report. But that is all right. Those who know Cynthia also know that she welcomes debate.

*I would like to thank the editors for inviting me to contribute to this volume. My colleagues in the W.M. Keck Center for Instrumental and Biochemical Comparative Archaeology at Millsaps College—Timothy Ward, Christie Kokel, and Nadia Al Hashimi—deserve special thanks for grinding, dissolving, and analyzing the sherds. Julie Hruby provided very helpful feedback on an early draft of this paper. Finally, I thank Cynthia and her partner Kate for great conversations and good memories.

Introduction: Old Questions, New Data

When I was a graduate student, Cynthia, along with the other directors of the Pylos Regional Archaeological Project (PRAP), helped me to organize and undertake my dissertation project. Using chemical and petrographic methods, I analyzed 310 sherds from 18 Late Helladic (LH) III sites in Messenia (Galaty 1999, 2007, 2010). Of the 310 sherds I analyzed, 198 had been studied previously by Joan Carothers (1992), and 112 were collected by PRAP. Of the 310, 114 were from kylikes. I also analyzed 16 clay samples: five illites and 11 kaolinites, four of which were marly.

It was Cynthia who encouraged me to focus on kylikes, which made sense since they are ubiquitous, can be dated at least to LH III (if not even more precisely to LH IIIA or IIIB), and would narrow considerably the amount of overall functional variation, and therefore noise, in my study. Kylikes comprise an interesting class of pottery, since we do not know exactly how they were used, whether as common drinking cups or on special occasions only, or both, but also because they could be compared to the other types of pottery in my sample: various "utility" wares, several stirrup jars, bowls, cooking pots, pithoi, and so forth. I wondered whether kylikes, given their perceived special attributes, might have been produced and distributed in ways that were different from other vessel types.

My analysis revealed that four different ceramic fabric types had been manufactured from two very different kinds of clay (Galaty 1999; cf. Wright 1984, 23). One of these types, Fabric 2, is very fine and made from kaolinite. The other types, Fabrics 1a, 1b, and 1c, were generally more coarse than Fabric 2 and made from illite, or, in the case of 1c, a mixture of illite and marly and/or kaolinitic clay. Fabric 2 was distributed very widely throughout Messenia and may have been produced at or near the Palace of Nestor, the only LH III site in my sample located close to a source of kaolinite clay. Fabric 1a was also represented at the palace but was not as widely distributed. Fabric 1b was found at the palace but is more strongly associated with the site of Koukounara and the Further Province sites of Nichoria and Mouriatadha. Finally, Fabric 1c, the "mixed" fabric, is similar in distribution to Fabric 2 and may have also been produced at or near the palace. I discuss these patterns of distribution and their possible interpretation at length elsewhere (Galaty 2010).

The results I obtained suggested to me that there were perhaps four workshops that supplied pots to the palace, one of which produced the bulk of fine wares (Fabric 2), including 83% of the kylikes in my sample. In fact, in a recent, detailed macroscopic study of the pottery from the palace pantries (rooms 18–22), including fingerprint analysis, Hruby (2006, 227) found that all of the fine pots (99% of the total, many of which were kylikes) had been mass-produced by a single potter. Based on a more cursory, visual survey of fine- and coarse ware pots from throughout the palace, she also suggested that there were four fabrics (one fine and three coarse). Her results match mine and fit nicely with Linear B references to a "royal" potter, *pi-ri-ta-wo*, and three additional potters, one of whom was named *qe-ta-ko*, all of whom may have supplied pottery to the palace (Palaima 1997, 410–411). It seems possible, then, that *pi-ri-ta-wo* manufactured fine Fabric 2 pots from kaolinite, perhaps using the source near the palace, and that the other three potters manufactured coarse pots, Fabrics 1a, 1b, and 1c, from illites.

My analysis sheds light on other aspects of Messenian pottery production as well. For example, whereas Cynthia and others sometimes refer to "palace" ware, which is greenish-yellow in color and associated strongly with the palace and the "palace" period, or LH IIIB, sherd color in fact reflects the use of different clay types, fired to different temperatures. It therefore seemed unlikely to me that sherd color could serve as a reliable chronological or spatial indicator (Galaty 1999, 40). I also assumed that illites were used exclusively for the production of coarse wares and were never, or rarely, levigated for the manufacture of fine wares (Galaty 1999, 47). This assumption was based on the tendency of illites and kaolinites to display similar colors—pink to light reddish orange—at low firing temperatures. It seemed more likely that potters low-fired kaolinites to produce certain fine utility wares, rather than employing the time-intensive method of sieving and/or levigating illites.

The above conclusions regarding pottery production and distribution were based in part on chemical characterization of sherds and clays by weak acid extraction followed by inductively coupled plasma atomic emission spectrometry, or WAE/ICP (Galaty 1999, 37–38). The method, albeit controversial (see Neff et al. 1996, with reply by Burton and Simon 1996), possessed certain advantages—it was fast, easy, and cheap—but provided only relative, not absolute, measures of elements in my samples. My results were thus rough and difficult to interpret conclusively. My fabric types, which had been checked by petrography, were not defined sharply by differences in chemical content; there were confusing overlaps in compositional groups. Likewise, whereas illites and kaolinites were very different chemically, I could not subdivide the two clay compositional groups further; for instance, illites from the north were similar to illites from the south, kaolinite from the palace was indistinguishable from all other kaolinites, and so forth. Consequently, chemistry did not allow exact provenance to be determined. In addition, the method did not work well with pottery that had been fired to high temperatures, so a number of my samples (n=18) could not be analyzed by weak acid extraction.

Given the limits of WAE/ICP, my results were necessarily general; I could draw only very broad conclusions about the nature of Mycenaean ceramic manufacture, distribution, and consumption in the state of Pylos. These conclusions though, broad as they were, hinted at meaningful patterns of variability that might still be revealed. In fact, Cynthia has continued to question some of the results of my research by insisting that sherd color is a typologically important characteristic, that production methods, like levigation, must have been employed, and, perhaps most importantly, that the palace could not or would not have controlled the manufacture and distribution of kylikes, let alone all fine wares, as I have suggested. So, with Cynthia urging me on, I have reanalyzed for this paper a sample of the pottery I have from the Palace of Nestor (n=34) using a different chemical method, one that is much more accurate and robust than WAE/ICP: inductively coupled plasma mass spectrometry, or ICP-MS (see review by Tykot 2004). This initial effort, focused on palace pottery, is part of a more ambitious plan to reanalyze by ICP-MS all of the pottery from Messenia that I have in my possession. I also recently exported pottery from the Mycenaean site of Iklaina, excavated by the Iklaina Archaeological Project (IKAP; under the direction of Michael Cosmopoulos; see Cosmopoulos 2006) and selected with Cynthia's help. These will be analyzed by ICP-MS soon and will provide an important comparative test of my methods and results.

Methods

Millsaps College in Jackson, Mississippi, where I teach, recently established the W.M. Keck Center for Instrumental and Biochemical Comparative Archaeology, funded by grants from the W.M. Keck Foundation and the National Science Foundation. Our primary instrument is a Varian 820 ICP-MS with laser ablation. I reanalyzed 23 of Carothers's sherds and 11 PRAP sherds, all from the Palace of Nestor (see Table 3.1). Carothers's sherds were excavated from rooms 20 and 60 and courtyard 47 at the palace, date to LH IIIB, and are from various "utility" wares, both coarse and fine, a cook pot, and several fine ware pots, including five kylikes and a possible stirrup jar. The PRAP sherds are all from kylikes, date to LH IIIA–IIIB, and were all collected during survey at the palace.

Whenever possible, a small piece was clipped from the sherd, then cleaned with a Dremel tool and ground in an agate mortar and pestle. The resulting powder was run through a digestion microwave twice. In the first digestion, 100 mcg were diluted with hydrofluoric acid and nitric acid and microwaved for 30 minutes at 180°C. In the second digestion, boric acid was added, and the sample was microwaved again for 30 minutes at 180°C. After digestion, the sample was placed into a 50 ml sample tube and diluted with 20 ml of a 1% nitric acid solution. Finally, an aliquot was taken with a pipette syringe and diluted to 10 g, again with a 1% nitric

ID	Find Spot	Munsell Color	Form	Period	Thickness (cm)	Chemical Group
JC157	Room 60	5YR 7/6 reddish yellow	Fine ware rim, possibly a kylix	LH IIIB	0.8	1b
JC158	Room 60	5YR 6/8 reddish yellow	Handle coarse vessel, mudstones	LH IIIB	—	1b
JC160	Room 60	5YR 6/6 reddish yellow	Utility vessel body sherd	LH IIIB	0.5	1a
JC161	Room 60	5YR 6/8 reddish yellow	Utility body sherd	LH IIIB	0.9	2
JC162	Room 60	5YR 7/8 reddish yellow	Coarse utility body sherd, mudstones	LH IIIB	0.9	1b
JC163	Room 60	2.5YR 6/8 light red	Utility body sherd	LH IIIB	0.5	1a
JC166	Room 60	7.5YR 8/2 pinkish white	Utility body sherd or fine ware(?), slipped	LH IIIB	0.8	2
JC167	Room 60	5YR 5/8 yellowish red	Fine ware rim, kylix	LH IIIB	0.35	1a
JC168	Room 60	5YR 6/8 reddish yellow	Utility body sherd	LH IIIB	0.6	1a
JC169	Room 60	5YR 6/6 reddish yellow	Utility body sherd	LH IIIB	0.85	1a
JC170	Room 60	2.5YR 5/6 red	Utility body sherd, or very sandy fine ware vessel	LH IIIB	0.45	1a
JC175	Room 20, southwest corner	5YR 8/4 pink	Fine ware body sherd, one band visible	LH IIIB	0.5	2
JC178	Room 20, southwest corner	5YR 6/6 reddish yellow	Coarse body sherd, shale	LH IIIB	1.1	1a
JC180	Room 20, southwest corner	10YR 8/4 very pale brown	Fine ware rim, possibly a kylix	LH IIIB	0.4	1b
JC182	Courtyard 47	5YR 6/8 reddish yellow	Body sherd fine ware	LH IIIB	0.5	1b
JC183	Courtyard 47	7.5YR 8/4 pink	Utility rim sherd	LH IIIB	0.4	1b
JC184	Courtyard 47	7.5YR 6/4 light brown	Rim fragment from cooking ware vessel	LH IIIB	0.9	1b
JC185	Courtyard 47	7.5YR 6/4 light brown	Body sherd fine ware, probably large stirrup jar	LH IIIB	0.7	1b
JC190	Courtyard 47	7.5YR 6/4 light yellowish brown	Utility body sherd	LH IIIB	0.6	1b
JC191	Courtyard 47	5YR 6/6 reddish yellow	Utility body sherd	LH IIIB	0.7	1a
JC192	Courtyard 47	10R 6/8 light red	Utility body sherd	LH IIIB	0.75	1a
JC193	Courtyard 47	2.5YR 5/8 red	Coarse utility rim, mudstones	LH IIIB	0.8	1b
JC196	Courtyard 47	7.5YR 5/4 brown	Kylix	LH IIIB	—	1b
MG6	B93-90710904	7.5YR 8/4 pink	Kylix	LH IIIA–IIIB	1.7	2
MG9	B93-90710904	5YR 6/6 reddish yellow	Kylix	LH IIIA–IIIB	—	1b
MG10	B93-90712110	7.5YR 8/4 pink	Kylix	LH IIIA–IIIB	—	1b
MG12	B93-90712110	7.5YR 7/6 reddish yellow	Kylix	LH IIIA–IIIB	2.0	1b
MG13	B93-90712111	7.5YR 8/6 reddish yellow	Kylix	LH IIIA–IIIB	2.0	1b
MG14	B93-90712111	10YR 8/4 very pale brown	Kylix	LH IIIA–IIIB	2.0	2
MG17	GS21209	7.5YR 8/4 pink	Kylix	LH IIIA–IIIB	1.8	2
MG18	GS21310	2.5Y 8/4 pale yellow	Kylix stem	LH IIIA–IIIB	2.0	2
MG19	B93-90721612	10YR 7/4 very pale brown	Kylix	LH IIIA–IIIB	1.7	1b
MG20	B93-90721612	7.5YR 8/4 pink	Kylix	LH IIIA–IIIB	1.9	2
MG21	B93-90721611	7.5YR 8/4 pink	Kylix	LH IIIA–IIIB	1.6	2

Table 3.1. Descriptive data for all 35 ceramic samples.

acid solution. This process allowed 38 elements to be measured absolutely, at the parts per billion level. The statistical methods used to analyze these results follow procedures developed by Neff (2002).

Results

Analysis of palace pottery by ICP-MS returned results that closely match those obtained by WAE/ICP: illites and kaolinites are easily distinguished (Fig. 3.1), and there are at least three ceramic compositional groups (Figs. 3.2, 3.3). But the precision of ICP-MS allowed additional meaningful patterns to be discerned. These patterns add complexity to the general image produced by WAE/ICP.

The application of ICP-MS identified three fabrics that are equivalent to Fabrics 1a, 1b, and 2 (see Table 3.1; Figs. 3.2, 3.3). Fabric 1a (n=9) is composed of relatively thick utilitarian vessels, all of which were collected by Carothers, and all of which were made from illite. At least one of these (JC178) are very coarse and tempered with shale. Some of the others are less coarse and tempered with fewer, finer shale inclusions. One of these (JC167) is a kylix rim. Several 1a vessels are fine wares (e.g., JC160, JC163). These fine vessels must have been made from illite clay that had been cleaned somehow, perhaps by levigation. Two of these display deep wheel marks and were definitely thrown. They are all bright orange (ca. 5YR 6/6 reddish yellow), which is typical of illites that have been fired at low temperatures.

Like Fabric 1a, Fabric 1b (n=16) is composed of some relatively thick utilitarian vessels (n=4) made from illite, some of which are coarse and tempered with mudstones (JC158, JC193), but it includes many more fine wares. The fine wares include a stirrup jar (JC185), as well as six definite and two probable kylikes, which together compose a separate subset (n=9) of the larger 1b fabric group (Fig. 3.2). These, too, like the 1a fine wares, must have been made from cleaned clays. They are also bright orange (ca. 5YR 6/8 reddish yellow) but tend to turn brown (ca. 7.5YR 6/4 light brown) to tan (ca. 10YR 8/4 very pale brown) at higher firing temperatures. This color profile may indicate mixing with kaolinite clays.

The Fabric 2 (n=9) samples are—with the exception of JC161, JC166, and JC175, which contain some chert grits—very fine and made from kaolinite. Six are definitely kylikes. At low firing temperatures, they are bright orange or pink (ca. 7.5YR 8/4 pink) but become yellow (ca. 2.5Y 8/4 pale yellow), the color associated with "palace" ware, at higher firing temperatures.

I did not identify by ICP-MS a fabric group that matches 1c, the "mixed" fabric. This may be a result of (sub)sampling bias, but I think it more likely that what I had been calling Fabric 1c was composed of fine wares produced by levigation of illitic Fabric 1b. In my original study, WAE/ICP also lumped many of these Fabric 1b fine vessels with the Fabric 2 compositional group. Since they are fine, petrography did not work to differentiate Fabric 1b and 2 fine vessels, and color, as indicated above, does not serve to distinguish them at low firing temperatures. However, given the precision of ICP-MS, Fabric 1b and 2 fine wares are now easily separated.

Thus, there are perhaps three, as opposed to four, fabric groups from the palace, but each group is more variable, in terms of the types of vessels it includes, than I had thought initially. Each fabric group includes both coarse and fine pots, though

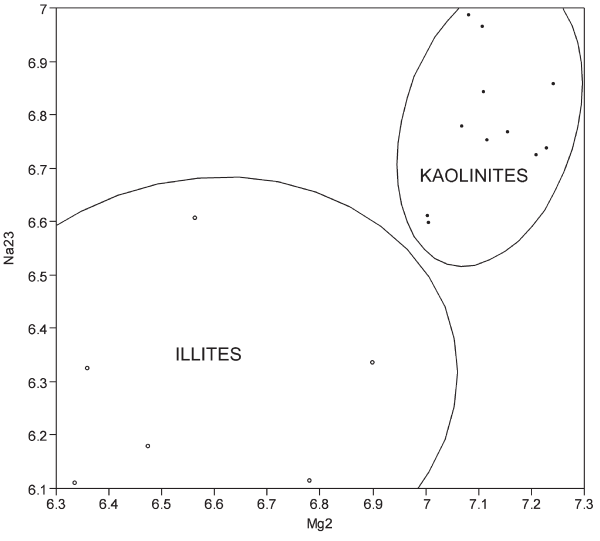

Figure 3.1. Scatterplot log-transformed data for sodium by magnesium for all clays. Ellipses mark 90% confidence level.

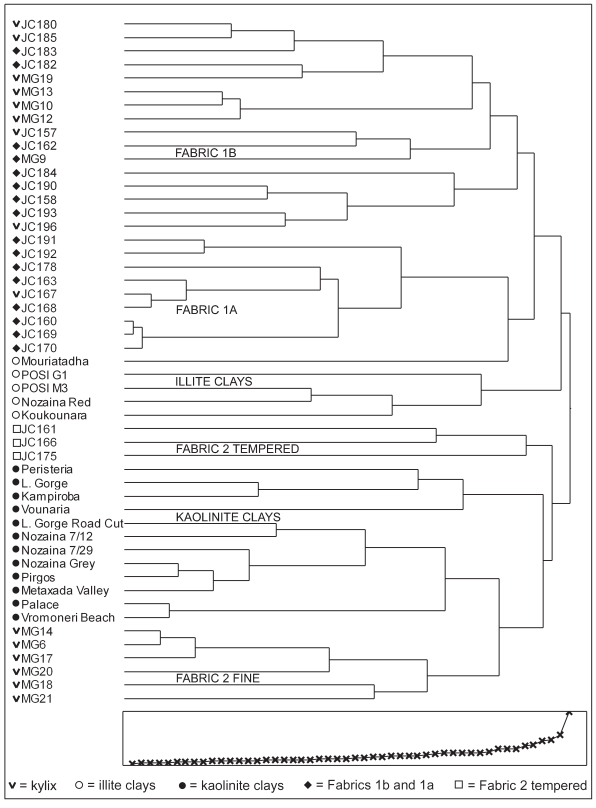

Figure 3.2. Results of a hierarchical cluster analysis using the Ward method on log-transformed compositional data for 30 elements for all clays and pottery. The graph at the bottom of the figure indicates the statistical distance overcome at each cluster join during the clustering process.

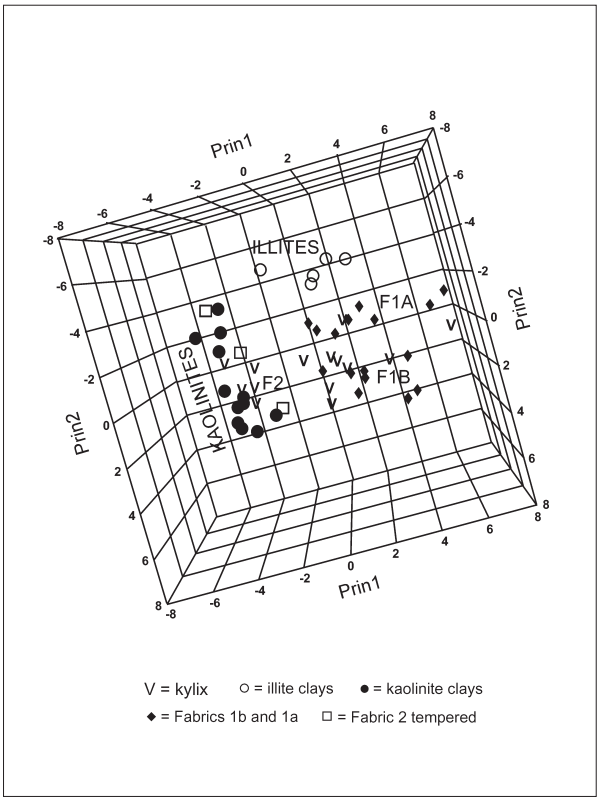

Figure 3.3. Three-dimensional scatterplot of the first three principal components for 30 elements for all clays and pottery.

true coarse wares are still confined to Fabrics 1a and 1b (i.e., shale- and mudstone-tempered vessels, respectively). All three groups include kylikes, though 1a only includes a single definite kylix. There are many fine Fabric 1b kylikes, and these tend to cluster together (Figs. 3.2, 3.3). Fabric 2 remains, as I had originally argued, the fabric most strongly associated with kylikes. Thus, kylikes still appear to be different and special, at least in terms of their chemistry, as compared to other vessel types, none of which constitutes a similar, separate subcluster.

Unfortunately, whereas ICP-MS is able to distinguish different individual clays (Fig. 3.1), none of the ceramic compositional groups matches a clay source definitively. I had hoped that Fabric 2, made from kaolinites, might match the clay sample from the palace, but that was not the case. Given the level of clay preparation now apparent, however, it may be that the determination of production provenance will not prove possible. It may also be the case, though, that more clay sampling throughout Messenia needs to be done, a project that is already underway.

Conclusions

I believe we can conclude safely that LH III Messenian potters employed complex paste recipes, some of which required the cleaning and mixing of clays, as well as the addition of tempers, processes

that tend to confound attempts to establish production provenance. Whereas this problem could not be addressed given the limits of WAE/ICP (and petrography), it can be solved now, at least in part, through ICP-MS analysis. For instance, the potter who made fine vessels using kaolinites sometimes added chert grits as a tempering agent. A principal components analysis of the elemental data indicates that principal component 1, which accounts for 41% of the variation in the data, relates to the tempering of Fabric 2 sherds, specifically JC161, JC166, and JC175. Conversely, utilitarian vessels were most often produced by potters using widely available illites (Fabrics 1a and 1b), but they also produced fine vessels, including kylikes, by cleaning relatively coarse illitic clays and then sometimes adding a temper. Principal component 2, which accounts for an additional 16% of the variation in the data, relates to mudstone tempering of Fabric 1b utilitarian vessels. So, tempering appears to be an exceedingly important characteristic, in particular in its effect on paste chemistry. It is likely that tempering, particularly of fine kaolinite vessels, creates a so-called dilution effect, thereby shifting chemical composition in the pertinent samples relative to the larger fabric group (Neff 2002).

The use of ICP-MS also allows the confounding factors of firing temperature and color similarity to be overcome and helps indicate which color differences represent meaningful typological characteristics (e.g., bright yellow is always indicative of Fabric 2; Fabric 1b turns brown at high temperatures whereas 1a does not; Fabric 1b fine wares turn light brown to tan at high temperatures, perhaps because they were produced by mixing illite with kaolinite or marl) and which do not (e.g., all three fabrics cannot be distinguished easily based on color when low-fired).

In 1999, and again in 2007 and 2010, I argued that the palace may have cornered the Pylian market for fine kaolinite wares, with a particular interest in kylikes. That appears now to have been a slight overstatement, as Cynthia had often cautioned. However, I think that this perception of the LH III Messenian pottery industry still holds, in general. Fine wares, kylikes especially, do appear to have been subjected to somewhat different systems of production and distribution, probably related to contexts of consumption (Galaty 2010; see also Shelton 2010 and this vol., Ch. 2), and this makes them chemically different compared to coarse wares. It seems probable that the expectation on the part of consumers was that a proper kylix should be fine, preferably made from kaolinite, and exhibit the yellow color associated by Cynthia with the palace, which may have mimicked the color of metal kylikes. As a result, when Fabric 1b potters produced kylikes from illites, they added kaolinite or perhaps marl, which is also high in calcium, to produce a lighter, finer product (Fabric 1c in my original system). The Fabric 1a kylix, on the other hand, with its bright orange, coarse body, would have stood out like a sore thumb.

The above interpretation is interesting, I think, given questions about just how Mycenaean goods, including pottery, were valued and consumed in LH III political economies (Parkinson and Pullen, this vol., Ch. 6; see also Shelton 2010 and this vol., Ch. 2). Compared to coarse wares, fine wares were functionally and visibly different, were used in different contexts, and were therefore valued differently. Fine wares were markers of status; those who used them aspired to elite rank, signaled by the use of metal. Kylikes represent well this value system. Elite members of Pylian society drank their wine from metal kylikes. Rising elites would have used fine yellow clay kylikes, ideally those most associated with the palace. Poseurs used coarse red clay kylikes. And many individuals probably did not drink from ceramic cups at all, let alone kylikes. They carved wooden drinking vessels, like peasants the world over continue to do, even in this age of mass-produced, relatively cheap glass. Furthermore, the seemingly mundane, functional character of an item such as a kylix does not preclude its potential for symbolic, even religious, value. As Eliade (1958, 11) observed some time ago, "[I]t is quite certain that anything man has ever handled, felt, come in contact with, or loved *can* become a hierophany [a manifestation of the sacred]" (italics in the original). Kylikes were symbolically charged, and therefore valued, precisely because they filled an indeterminate, liminal role in rituals that helped determine social rank, such as feasting. It is for this reason that the palace sought to restrict their distribution by centralizing production. And the chemical-compositional data support this conclusion.

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CHAPTER

4

A Very Underestimated Period: The Submycenaean Phase of Early Greek Culture

Sigrid Deger-Jalkotzy

Overview of Submycenaean Archaeological Finds

Within the investigation of the early history of Greece,* the so-called Submycenaean period has received minimal attention. Scholars in the field of Aegean prehistory tend to view the transitional phase between Late Helladic (LH) IIIC and the beginning of the Protogeometric (PG) period either as an unimportant appendage to the Mycenaean culture or as an unimportant prelude to the Early Iron Age. Only a few authors, such as Styrenius (1967), have paid attention to the Submycenaean period in its own right, some of them drawn by the chance (or necessity) to study and publish the finds from sites where Submycenaean material was excavated (most recently, see Eder 2001, 2006; Ruppenstein 2007). Moreover, there has been considerable disagreement on the question of whether or not there actually existed a separate cultural phase that could be called "Submycenaean." Scholars such as Desborough, Rutter, and Podzuweit—using varying lines of approach—claimed that the cist grave cemeteries of the Arsenal in Salamis and the Kerameikos in Athens were contemporaneous with the Mycenaean chamber tomb cemeteries of LH IIIC Late. Desborough explained the differences between "Mycenaean" and "Submycenaean" features in terms of two cultures that existed synchronously but were developed by separate ethnic groups

*To Cynthia, with great admiration. Although her main interest lies with the Mycenaean palaces, she has always paid attention to the aftermath, too.

Since the completion of this manuscript, Papadopoulos, Damiata, and Marston (2011) published an article pertaining to the present subject.

(Desborough 1964, 17–20; 1972, 64–111). Other authors hold the view that the "Submycenaean" features of settlements and cemeteries represented, in fact, the final stage of LH IIIC Late (Rutter 1978; Podzuweit 1988, 215–216; 2007; Sipsie-Eschbach 1991, 187). Against these views, it has been argued that the Arsenal and Kerameikos cemeteries were chronologically subsequent to the tombs of LH IIIC Late (e.g., Schachermeyr 1980, 183–199; Mountjoy 1988; Ruppenstein 2003; 2007; 2009) and that at some settlements a "Submycenaean" phase, indeed, could be distinguished from the layers of LH IIIC Late (e.g., Kilian 1988; Papadimitriou 1988).

I found myself compelled to deal with the "Submycenaean problem" on occasion of the Greek-Austrian excavations at Elateia in central Greece, conducted by Phanouria Dakoronia and myself. Meanwhile it became generally known that the chamber tombs of the Mycenaean cemetery on the Elateia-Alonaki slope north of the modern village were used far beyond the end of the Mycenaean period. The first tombs were cut in early LH IIIA, and the last ones were abandoned around 800 B.C. (for a short survey, see Dakoronia 2004; Deger-Jalkotzy 2004).

Moreover, it turned out that the long-standing use of the Elateia-Alonaki cemetery was not without parallels in the Upper Kephissos valley. Similar cemeteries were excavated at other sites, such as Amphikleia and Modi. Unfortunately, very little information is available on these sites (for Amphikleia, see Schachermeyr 1980, 319–321), but Dakoronia has kindly informed me that the cemeteries were abandoned in the course of the 10th century B.C.

Another case of continuity between the Mycenaean period and the Early Iron Age that has been known and published for some time is the sanctuary of Kalapodi. It is situated near the modern village on a pass of the main route between the Kephissos valley and the coastal areas of East Locris. A small shrine was built in its vicinity in LH IIIC Early (and in fact even before that date; see Niemeier 2008, 2009). It was destroyed in LH IIIC Late, but cult activities continued until the site was built over again by consecutive cult buildings (for Late Geometric and Archaic temples, see Felsch 2001; Felsch, ed., 2007; Niemeier 2008, 2009). The cult activities from LH IIIC until the end of the Early Protogeometric (EPG) period left 23 strata (Jacob-Felsch 1996, 91–102). Of these layers, 11–15 were attributed to the transition from LH IIIC Late to EPG, and three of them (13–15, "Horizon 7") were expressly labeled as Submycenaean (Jacob-Felsch 1996, xvi). Analysis of the animal bones has provided an idea of the character of the deity who was worshipped in the Kalapodi sanctuary (Felsch 2001, with bibliography). Apart from the traditional Mycenaean sacrificial animals, such as sheep, goat, cattle, and pig, the paleozoological material from Kalapodi included a remarkable percentage of wild animals, such as bear, lion, red deer, wild pig, and turtle. Therefore, it may be imagined that among the worshippers who gathered at the Kalapodi sanctuary there may well have been inhabitants of the surrounding mountains who made their living as shepherds and hunters.

In recent years, two further instances from central Greece of a continuous tradition from LH IIIC to the Early Iron Age have been reported, both of them situated at the bay of Atalanti in East Locris. At the northern end of the bay the settlement of Livanates-Kynos was excavated. The site yielded substantial evidence of a gradual transition from LH IIIC Late to EPG (Dakoronia 2003, with bibliography; Dakoronia and Kounouklas 2009). Near the end of the same bay is the small island of Mitrou, where recent excavations have brought to light an extensive Early Mycenaean settlement, as well as settlement and burial evidence for the transitional period from Late Mycenaean to Early Protogeometric (Van de Moortel 2009). A LH IIIC Late/Submycenaean phase may be represented by a (ceremonial? cultic?) deposit in Building C. It consisted of 22 miniature handmade unburnished vases and a wheelmade cooking pot covered with a krater base for a lid. This vessel contained the thigh bones of a young pig and four fetal piglets (Van de Moortel 2009, 362–364, figs. 5, 6). Most of the miniature vases are imitations of Mycenaean open shapes. However, one mug certainly was formed after a handmade model (Lis 2009, pl. 8:3). Therefore, Lis may well be right in synchronizing this "non-profane" deposit with the LH IIIC Late/Submycenaean layers 11–15 from Kalapodi (Lis 2009, table 4).

Returning now to the Elateia-Alonaki cemetery, the funerary assemblages suggest that from LH IIIC Middle/Advanced onward prosperity settled in and remained until the EPG period. Obviously, the inhabitants took advantage of the favorable

economic conditions of the area and its excellent situation at the major routes of communication (Deger-Jalkotzy 2007). In terms of burial gifts, the community's continuous prosperity during the transitional period was demonstrated above all by more than 1,500 bronze objects (Dakoronia 2004).

The funerary assemblages assignable to the span of time between LH IIIC Late and EPG seem to represent three stages of development, of which two at least should be assigned to the Submycenaean period (Deger-Jalkotzy 2009). The first post–LH IIIC stage may be called "LH IIIC Final" or "Final Mycenaean," although I prefer the term "LH IIIC Final/Early Submycenaean" (Deger-Jalkotzy 2009, 78–84, figs. 1–3). The second phase can be assigned with confidence to the Submycenaean period (Deger-Jalkotzy 2009, 85–97, figs. 4–6, 8), while the third phase can be viewed as representing the transition to, or even the beginning of EPG (Deger-Jalkotzy 2009, 97, fig. 7). During the first (LH IIIC Final/Early Submycenaean) phase, the pottery remained Mycenaean in appearance, but the decorative system lacked inspiration. The technical quality of the ceramics, too, deteriorated due to the poor preparation of the clay and inadequate firing. The vases assumed a baggy appearance, and their height hardly ever exceeded 0.15 m. The repertoire of shapes was reduced to amphoriskoi, small jugs, stirrup jars (Furumark Shape [FS] 177; see Furumark 1941), and lekythoi (Deger-Jalkotzy 2009, figs. 1, 2:1–4, 9:1–3). The pottery of the second (mature Submycenaean) phase, too, was marked by its Mycenaean heritage, but a new spirit expressed itself in the way vases were shaped and structured. The technical quality also improved. These achievements not only foreshadowed the further development of the regional pottery production, but eventually led to the ability of making the large-sized amphorae and oinochoai of the PG period. However, raised straight or slightly conical feet were almost absent or at least extremely rare (Deger-Jalkotzy 2009, 94–96). Stirrup jars had disappeared from the repertoire. In contrast, lekythoi and amphoriskoi were the most popular shapes (Fig. 4.1).

Amphoriskoi with vertical handles on the shoulder (Fig. 4.1:f, g) deserve particular attention because they may have been a central Greek invention (Deger-Jalkotzy 2009, 95–96, figs. 10–12, 14). The shape may have started in LH IIIC Late, and it remained popular until the EPG period. Light ground decoration consisted of bands and patterns such as the scroll (cf. Fig. 4.1:f), tassel, and wavy line (Deger-Jalkotzy 2009, fig. 12), but monochrome pieces prevailed by far (Deger-Jalkotzy 2009, figs. 10–11, 14:4–8).

During the second Submycenaean phase, handmade vases made their first appearance (Fig. 4.2:d–h; Deger-Jalkotzy 2009, fig. 15) and thereafter served as burial gifts until the end of the ninth century B.C., when the cemetery was abandoned (Deger-Jalkotzy 2009, 91–93). At Livanates-Kynos in East Locris, too, handmade burnished vases did not occur in layers of LH IIIC Middle and Late; they first appeared together with Submycenaean vases and remained in use during the Early Iron Age (Dakoronia 2003, 47). In contrast, the pottery deposits at the sanctuary of Kalapodi already included handmade pottery from LH IIIC Early onward (Jacob-Felsch 1996, 75–78). In this case, the dedication of handmade vessels may have been related to the character of the deity who was worshipped at Kalapodi, as well as to the cult practices of the worshippers who congregated at this rural sanctuary. In any case, during the Early Iron Age, handmade pottery played a more pronounced role in central Greece than in Attica, in the Peloponnese, and in the islands. It may be further suggested that the origin of the (few) handmade jugs and jars found in the Submycenaean graves of the Kerameikos may be sought, indeed, in central Greece, as has been recently discussed by Ruppenstein (2007, 169–183).

At Elateia the repertoire of handmade vases was more or less confined to the one-handled jug and the two-handled jar (or amphora), mostly of the rim-handled or neck-handled type (Fig. 4.2:g, h). A few handmade belly-handled amphoriskoi obviously imitated wheelmade specimens (Deger-Jalkotzy 2009, 92). A small group of four handmade vases displays incised horizontal lines and two parallel zigzags enhanced by white incrustation (Fig. 4.2:d–f). In view of this small number, it seems unlikely that incised handmade vases were typical of the repertoire of ancient Phocis. Ruppenstein may well be right that a wider horizon of northern Greece and the Balkans in general should be considered with regard to the origin of this pottery class (Ruppenstein 2007, 178–180).

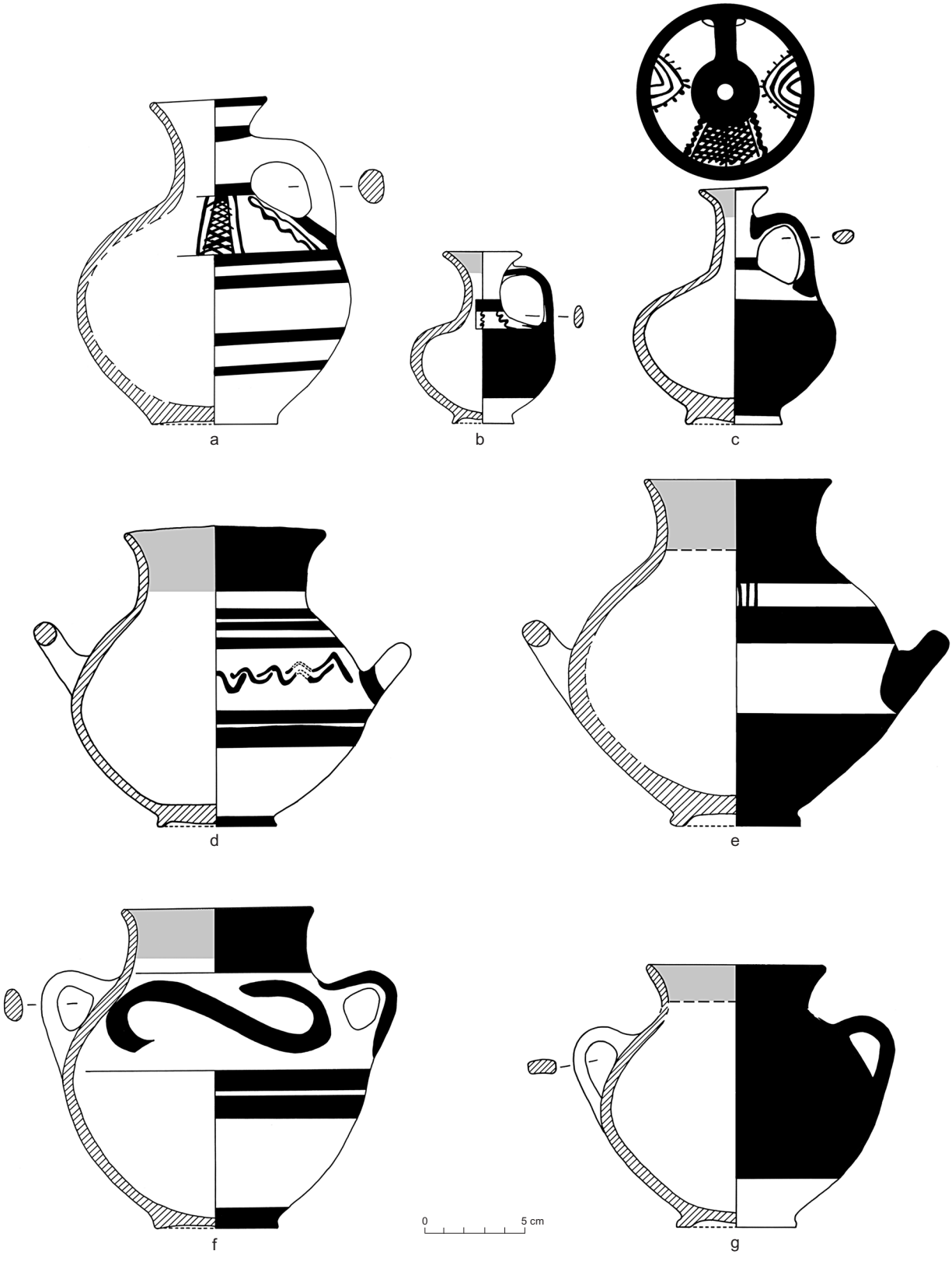

Figure 4.1. Submycenaean wheelmade vases from Elateia: (a–c) lekythoi from tombs 35, 36, and 4; (d, e) belly-handled amphoriskoi from tombs 62 and 49; (f, g) amphoriskoi with vertical handles on the shoulder from tombs 50 and 24. Artwork B. Eder, M. Frauenglas, and E. Held. Gray indicates dark paint on interior of vessel.

Figure 4.2. Novel features of Submycenaean character from Elateia: (a) long dress pins with swellings from various tombs; (b) pair of dress pins with globular heads from tomb 24; (c) arched fibulae with twisted bow from tombs 24 and 4; (d–f) handmade juglet, pyxis, and amphoriskos with incised and encrusted decoration from tombs 24, 70, and 45; (g, h) handmade jars from tombs 24 and 49. Photos St. Alexandrou, B. Eder, and E. Held; layout M. Frauenglas.

During both phases of the Submycenaean period at Elateia, the deposit of metal objects reached a pinnacle. Individual skeletons had rings on every finger of both hands, and the numbers of dress fasteners and other forms of personal adornment exceeded anything previously observed at the transition from the Late Bronze Age to the Early Iron Age. The metal finds will be published by Dakoronia (for a first survey, see Dakoronia 2004). Therefore, the present text will refer only to the first appearances of novel metal objects and refrain from entering into technical details.

During the first (LH IIIC Final/Early Submycenaean) phase, long dress pins with oblong swellings on the upper part and nail heads or other terminals on top of the shaft (Fig. 4.2:a) made their first appearance, occurring singly rather than in pairs. Some were additionally decorated with incisions and/or ring-like moldings. Most of them reached a considerable length of 30 cm or more. Violin bow–shaped fibulae with twisted bows or with leaf-shaped bows decorated with patterns in dot *repoussé* were still in use and indeed may have still been made during this phase. However, these objects had had their heyday during LH IIIC Late. The largest group of metal objects consisted of finger rings, which were found in great numbers. The rings consisted of hammered bands with open or overlapping terminals with flat or plano-convex sections. A few rings had a midrib, too. Other types consisted of cast rings of modest width and with plano-convex sections, spiral rings, and shield rings decorated with dot *repoussé*. Some of these types may have already appeared in LH IIIC Late, but it was during the first Submycenaean phase that they were all fully established and richly represented among the burial gifts (Deger-Jalkotzy 2009, 82–84). Novelties of the second Submycenaean phase at Elateia consisted of dress pins with a globular head (Fig. 4.2:b), arched fibulae with a twisted bow (Fig. 4.2:c), and massive cast finger rings with a midrib and triangular section. Dress pins were now deposited in pairs, as were other types, too, such as pins with a rolled top or pins with swellings on the upper end of the shaft. Apart from these novel elements, bronze adornments that had been introduced previously continued to be in use for burial gifts (Deger-Jalkotzy 2009, 96). Finds of iron were extremely rare. During the third (Submycenaean/EPG) phase, long iron dress pins with a globular head of bronze appeared for the first time.

Three new burial customs were practiced at Elateia-Alonaki in or after the end of LH IIIC Late (Deger-Jalkotzy 2009). First, corpses were deposited one above another in extremely contracted positions. This was in contrast to prior tradition, according to which the deceased were deposited outstretched with slightly contracted legs. The new practice was mainly performed during the first (LH IIIC Final/Early Submycenaean) phase and may have been discontinued before the end of the Submycenaean period (Deger-Jalkotzy 2009, 97). Second, new tombs of very small size and of an "acanonical" shape were dug. Despite their small size, these tombs were used for multiple burials and thus still adhered to the Mycenaean tradition (Deger-Jalkotzy 2009, 78, fig. 1). Third, cremation was introduced at Elateia in LH IIIC Late and continued to be performed for Submycenaean and PG burials. Although the number of cremations at Elateia was marginal (less than 2% of the burials), it is nevertheless worth mentioning that this burial practice reached a peak during the LH IIIC Final/Early Submycenaean span of time (Deger-Jalkotzy 2009, 84).

The question arises as to why it was just in the final phase of LH IIIC Late and the Early Submycenaean that a change in burial practices took place. Elsewhere we have connected this phenomenon with the fact that during that period the numbers of burials in the Elateia-Alonaki cemetery reached a maximum (Dakoronia, Deger-Jalkotzy, and Fabrizii-Reuer 2000–2001). Even pits in the chamber floors were used for primary burials. Moreover, vases of LH IIIC Final/Early Submycenaean were deposited both on the floor and in the pits of the chambers. Therefore, the conclusion suggests itself that at the end of LH IIIC and in the first phase of the Submycenaean period a growth of population took place at Elateia.

Summing up, the evidence from cemeteries and a sanctuary in the region of ancient Phocis and from two settlements of East Locris suggests that in central Greece the end of the Mycenaean Age and the beginning of the Early Iron Age took a different course from that seen in Attica or the Peloponnese. In those regions and on many islands, the end of LH IIIC appears to have been marked by decline and abandonment, after which a new beginning was inaugurated under different cultural

conditions. However, even this view may have to be revised in view of recent archaeological data. Two particular cases will be examined below.

In the region of Achaea, the cultural and historical development at the end of the Mycenaean civilization appears to have partly resembled that of the Upper Kephissos valley. It was suggested long ago that the Mycenaean chamber tombs of Achaea were still in use when in the eastern regions of the Peloponnese LH IIIC had already given way to Submycenaean or even PG (e.g., Papadopoulos 1978–1979, 184–185). This opinion met with some skepticism because it was not supported by strong material evidence (Eder 2009, 135). It has now been corroborated, however, by the finds from recent excavations of chamber tomb cemeteries such as Portes and Voudeni in western Achaea, analyzed by Moschos (2009). According to this author, the prosperous period of LH IIIC Late was followed by a short phase labeled "Phase 6a: Final Mycenaean." The pottery style may be characterized as a "declining phase of LH IIIC Late," which at the same time displayed Submycenaean features (Moschos 2009, 256–259, figs. 11–30). During this phase, the communities of western Achaea remained prosperous and continued to entertain a wide network of external connections, which even extended as far as the east coast of southern Italy and Cyprus. The pottery finds allow for synchronizations with Elis, Arcadia, Aetolia, the Ionian islands, and central Greece (Elateia!), as well as with the Submycenaean graves in Attica and in the east Peloponnese (Moschos 2009, 260–261). The subsequent "Phase 6b" according to Moschos was clearly Submycenaean. This phase was of longer duration than the previous one. The local pottery style was a blend of Submycenaean and late Mycenaean features (Moschos 2009, 259–260, figs. 31–40). Arched and twisted fibulae, however, as well as long dress pins in pairs, appeared along with Mycenaean weapons (Moschos 2009, 241, nos. 38, 39). Together, the two phases 6a ("Final Mycenaean") and 6b ("Submycenaean") constituted the Submycenaean period in Achaea. During the earlier Phase 6a, the Mycenaean chamber tombs continued to be used and burial customs did not change. In contrast, during Phase 6b many cemeteries were abandoned (except for the Patras region with the settlement at Hagia Kyriaki and the cemetery at Voudeni), and external contacts became restricted to the neighboring regions. Settlement evidence from Achaea is notoriously poor. However, Moschos argues that Teichos Dymaion, Chalandritsa-Stavros, and Pagona survived in Phase 6a and were abandoned thereafter, while Hagia Kyriaki (the settlement connected with the Voudeni cemetery, see above) was still inhabited in Phase 6b (Moschos 2009, 242–243). This would agree with my own impression that the LH IIIC settlement at Aigeira in eastern Achaea survived into the Submycenaean period and even later (Deger-Jalkotzy 1991, 27). Toward the end of Phase 6b, which was probably overlapping with the beginning of EPG elsewhere, several Mycenaean chamber tombs in the Patras area and tholos tombs (Kallithea) in western Achaea were reused. The burial gifts now included iron knives and swords and handmade pottery. The reuse of Mycenaean tombs in Achaea is quite in contrast to the neighboring regions of Elis and Aetolia, where cist graves and pithos burials prevailed. It has been explained by Moschos in terms of social and demographic changes (Moschos 2009, 245, 250–254). We shall return to this point later on.

From the island of Euboea, new excavations on the Xeropolis hill at Lefkandi will lead to a revision of the picture that has until recently prevailed on the transition from the Late Bronze to the Early Iron Age. In the first place, the settlement on Xeropolis did not come to an end with LH IIIC Late. Domestic structures (cf. Lemos 2008, 39), buildings of larger dimensions and higher quality (dwellings probably reserved for members of a local elite; on the Early Iron Age "megaron" and its LH IIIC predecessor, see Lemos 2008; 2009a; 2009b, 182), and special structures of possibly nonprivate functions (Lemos 2009a, 54) built during the transition from LH IIIC Late to EPG testify to a continuous settlement. At the same time, well-known new single grave cemeteries were established in its vicinity, and the Mycenaean tradition of burial customs came to a close (Popham, Sackett, and Themelis, eds., 1980).

There is no doubt that the new archaeological evidence requires a fresh approach to the transitional period from LH IIIC to the Early Iron Age in its own right. Clearly, the vision of a uniform "Submycenaean culture" has to be abandoned. The post–LH IIIC developments expressed themselves in greatly varying fashions throughout the regions of Greece. The instances of central Greece and Achaea suggest that in some regions, indeed,

the Mycenaean tombs continued to be used. However, it is not tenable that LH IIIC Late and Submycenaean settlements and cemeteries were entirely synchronous. Even if some regional pottery styles still adhered to the Mycenaean tradition, it can be shown that they were influenced by those ceramic characteristics that we have come to label as "Submycenaean" (Deger-Jalkotzy 2009; Moschos 2009). Moreover, the burial gifts included metal objects of so-called Submycenaean types. Nevertheless, the crucial question still remains as to when and where those cultural features commonly associated with the term "Submycenaean" were first developed and adopted.

From the numerous topics pertaining to the transitional period from the Late Bronze to the Early Iron Age, I would like to select two major problems.

Phasing, Chronology, and Synchronisms

With regard to chronology, we have no more than two key dates for the postpalatial Mycenaean era: ca. 1200 B.C. for the beginning of LH IIIC and ca. 1050/40 B.C. for the beginning of the PG. The span of time enclosed by these dates, ca. 150 years, must have comprised the entire LH IIIC and the Submycenaean periods (Weninger and Jung 2009, fig. 14). I have tentatively assigned the Submycenaean span of time in central Greece to ca. 1080–1040 B.C. (see also further below).

A great problem is posed by the chronology of the Submycenaean burials of the Kerameikos cemetery. Pottery collected from ca. 140 graves was subdivided into four stylistic and chronological groups. Groups I–III can definitely be called Submycenaean, while group IV represents a transitional stage between the Submycenaean and EPG. The duration of time attributed by Ruppenstein to these four groups was "not significantly less than 100 years" (Ruppenstein 2007, 269). In contrast, Moschos has subdivided the post–LH IIIC period of Achaea into a short Phase 6a and a longer Phase 6b. Only vases of the first phase are said to display parallels with the pottery from the Kerameikos (Moschos 2009, 261).

As for Elateia, the considerable increase in burials during the two Submycenaean phases may or may not have taken place over a long span of time. It is possible that the increase in burial numbers, combined with the change in burial habits and the use of cremation, may be ascribed to demographic developments rather than to an extended span of time (see further below). The stylistic development of the wheelmade pottery was slow and adhered to the Mycenaean tradition, so that any calculation on the basis of the pottery development has to remain speculative. The first (LH IIIC Final/Early Submycenaean) phase can be synchronized with Phase 6a in Achaea (Moschos 2009, 239). However, it appears to have been of a longer duration than the incipient Submycenaean phase in the northwest Peloponnese. During the mature Submycenaean phase of Elateia, the contacts with Achaea had come to a close. Instead, a useful hint may be gained from the lekythoi (Fig. 4.1:a, b) because in Athens and Attica vertical wavy lines were more or less confined to the lekythoi of the second phase of the Submycenaean period. The handmade pottery establishes a further chronological link between the mature Submycenaean phase at Elateia and the mature Submycenaean phase(s) of the Kerameikos. On the whole, it seems reasonable to allocate two generations for the two Submycenaean phases at Elateia (Deger-Jalkotzy 2009, esp. 98–99).

In contrast to Ruppenstein, Lemos has viewed Submycenaean as a short "intermediate stage between the Late Mycenaean period and the following PG period" (Lemos 2002, 7–8). This view certainly applies to the evidence from the Skoubris cemetery and from the new excavations on the Xeropolis hill, which do not warrant the idea of a long duration of time.

Time calculations with regard to the sanctuary at Kalapodi are rendered difficult by the paucity of material from levels 13–15 (Jacob-Felsch 1996, 98–99). Moreover, the pottery style hardly differs from that found in the levels of LH IIIC Late. It is significant, however, that during the Submycenaean period the percentage of handmade pottery rose to 50% and more. This fact brings to mind the fact that the first appearance of handmade pots in the

Elateia-Alonaki tombs occurred during the second (mature) Submycenaean phase.

Under these circumstances, the problem of the relative chronology of the Submycenaean period and where it should be placed within the framework of absolute chronology between 1200 and 1040 B.C. remains to be discussed anew. First, research into the chronology of the period must take painstaking regard of regional diversities and seek out synchronistic elements. Moreover, it has to be asked whether or not there was a correlation between the number of burials and the duration of time. Is it conceivable that in certain regions, such as Attica, the stylistic development was more dynamic than in others? In other words, is it feasible that the Submycenaean phases I–III of the Kerameikos covered, in fact, no more time than the two Submycenaean phases of Elateia and Achaea?

Possible Demographic and Political Changes

It is only natural that the obvious cultural changes during the transitional period have often been explained in terms of demographic causes. In particular, dissolution of political organization, cultural decline, and depopulation were taken into consideration. Even so, explanatory models based on migrations have received much criticism during the last 40 years.

At Elateia the considerable increase in burials during the two Submycenaean phases may or may not have required a long span of time, as discussed above. However, the decline-and-depopulation model is not applicable. We have already referred to the community's continuing prosperity during the transitional period. At the same time, from the end of LH IIIC onward a population increase took place, reaching a peak in the first phase of the Submycenaean period, and this may have led to a change in burial customs. In this connection, it may be pointed out that it is not easy to cremate an adult. Therefore, there must have been a group of people at Elateia who were experienced in this burial practice (Dakoronia, Deger-Jalkotzy, and Fabrizii-Reuer 2000–2001, 147–149). The practice of burying corpses in an extremely contracted position, too, may have been associated not only with the increase in burials, but it could also have been a reflection of nonindigenous burial customs. In this connection, it was perhaps no mere chance that the increase in burials and the use of cremation did not extend to all tombs of the Elateia-Alonaki cemetery (Deger-Jalkotzy 2009, 84). Moreover, new metal adornments and handmade pottery were introduced for burial gifts, and many Mycenaean pottery shapes became obsolete. Therefore, the growth of population and certain cultural changes may be ascribed to the immigration of new population groups.

It is possible that they did not come from afar. At the sanctuary at Kalapodi, where the deposition of handmade jugs and jars had been a long-standing custom, the percentage of handmade pottery rose to 50% during the transition from LH IIIC Late to the Early Protogeometric. This was the same time when handmade jars and jugs were first deposited in the tombs of Elateia. Thus, it may be suggested that the inhabitants of the surrounding mountainous areas, who had previously gathered in the worship of a "goddess of (wild) animals" (Felsch 2001) at the sanctuary at Kalapodi, now moved and settled in the plain. However, the origin of the incised handmade ceramics found at Elateia and of certain metal objects (Dakoronia 2004) has to be sought in more distant regions. Moreover, in view of the abandonment of Mycenaean settlements during and after LH IIIC Late, it cannot be excluded that Mycenaean refugees, too, arrived in the Upper Kephissos valley. Nevertheless, if the increase in burials during the Submycenaean period at Elateia was, indeed, caused by immigrants, these people did not stay for good—or, at least, not all of them stayed. During the EPG period, the number of burials declined, and only a limited number of tombs of the Elateia-Alonaki cemetery were used after the 10th century B.C.

At the present state of study, it is still too soon to make conclusive statements on the social and political organization that may have prevailed at Elateia during the Submycenaean span of time. In view of the general prosperity of the community and the absence of weapons and other distinctive prestige objects, it will certainly require more subtle

criteria to define possible social differentiations. In contrast, the burials of the Early Iron Age clearly testify to elite status of certain individuals and families (Dakoronia, Deger-Jalkotzy, and Fabrizii-Reuer 2009).

The archaeological evidence from Achaea has been recently interpreted by Moschos in terms of political changes and migrations that affected the western regions of Greece during the transition from the Late Bronze to the Early Iron Ages (Moschos 2009). In his view, people from Achaea settled during the Final Mycenaean/Early Submycenaean Phase 6a in neighboring regions such as Elis, Aetolia, and Kephallonia. In Phase 6b, the immigration movement became extensive, leading to the abandonment of many sites. Moschos believes that the ancient myths about migration movements from Achaea to Attica and other regions of eastern Greece and above all to Cyprus may well have contained some kind of a collective historical memory, and that these migrations were organized by a political authority that was probably centralized in the Patras area. During Phase 6b of Achaea, a local EPG style emerged in Aetolia and Acarnania that was apparently a blend of Mycenaean survivals and novel "northern" features (Moschos 2009, 240–253). Population movements were now reversed. Newcomers from the regions across the Corinthian Gulf arrived in the northwest Peloponnese and adjacent islands. Toward the end of Phase 6b, several Mycenaean tombs were reused in Achaea and Kephallonia, while cist graves were introduced in Elis. Doubtless the historical sketch presented by Moschos is fascinating. But is it the only possible interpretation?

In contrast to earlier views, it is now evident that even distant external contacts did not come to a close during the Submycenaean period. However, partners may have changed. For instance, the long-standing relations between central Greece and Achaea seem not to have continued during the mature Submycenaean phase (Deger-Jalkotzy 2009, 98; Moschos 2009, 261). Moreover, in the light of the recent archaeological evidence, it does not seem out of place to resume the old discussion on Greek migrations across the Aegean to Asia Minor and farther on to Cyprus.

In conclusion, research of the last two decades into the LH IIIC period has led us to believe that the "last Mycenaeans" managed to retain their cultural heritage and to adapt it to the conditions that set in after the breakdown of the palatial system. Now the question also has to be asked as to what extent their "successors" were able to preserve and/or transform this heritage and to hand it down to the Early Iron Age.

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CHAPTER

5

The Canaanite Transport Amphora within the Late Bronze Age Aegean: A 2013 Perspective on a Frequently Changing Picture

Jeremy B. Rutter

Examples of the typically Levantine form of Late Bronze Age shoulder-handled transport and storage amphorae were first recovered from Aegean excavation contexts over 130 years ago (Lolling 1880).* Long branded with the somewhat misleading label of "Canaanite jar" (Grace 1956; Amiran 1969, 138–142), vessels of this type came to play an increasingly significant role in treatments of Mycenaean trade

*It is both a pleasure and a privilege to contribute an essay to a volume honoring the many career achievements of Cynthia Shelmerdine, a long-time friend and colleague for whose numerous contributions to the field of Aegean prehistory I have so much admiration and respect.

I am grateful to several friends and colleagues who have provided me with helpful information about the Syro-Palestinian amphorae found at sites where they work and the permission to cite unpublished details about these vessels here, including Joseph Maran and Philipp Stockhammer at Tiryns, Angus Smith and Jeff Soles at Mochlos, and Kim Shelton at Mycenae. Special thanks go to Philipp Stockhammer for helpful commentary on the nature and chronology of the earthquake destructions observed at Tiryns and Mycenae during LH IIIB. As so often before, I am very much in Julia Pfaff's debt for the drawings in Figs. 5.1 and 5.2; thanks also for the final layouts to Tina Ross.

Much of the research for this essay was made possible by a generous research fellowship provided to me from November 2008 through February 2009 by the Institute for Advanced Studies at the Hebrew University of Jerusalem. I am especially beholden to the three co-organizers of the research seminar in which I participated during my stay in Jerusalem: Amihai Mazar, Aren Maeir, and Assaf Yasur-Landau. Aside from teaching me a lot about countless aspects of Syro-Palestinian archaeology that I had never known, they made it possible for me to see a large number of Canaanite jars at close range, as well as to discuss the typological details of such vessels with numerous knowledgeable researchers.

and exchange with the Near East as more and more examples were identified at sites throughout the Aegean (Immerwahr 1971; Blegen et al. 1973; Åkerström 1975; Onassoglou 1979) and on the wrecks of ships making their way into the Aegean from farther east (Hennessy and du Plat Taylor 1967). But at least until the later 1970s, such vessels tended to be recognized in Aegean contexts only when largely or fully preserved, and thus almost exclusively in the form of grave goods from funerary contexts. Exceptions to this rule included a certain number of both substantial and small fragments from settlement contexts at Mycenae, but published examples as recently as 1975 numbered no more than an even dozen, all from Mycenaean tombs of the Late Helladic (LH) III period (Åkerström 1975, 191–192, nos. 1–12). Not until the excavations of Joseph and Maria Shaw and their collaborators at Kommos on Crete (1976–1985) and of Klaus Kilian and his team in the Unterburg at Tiryns (1976–1983) were significant quantities of such vessels recognized for the first time in highly fragmentary form from Aegean settlement contexts (Kilian 1988a, 128–129, figs. 24, 25; 1988b, 127, fig. 4; Olivier 1988; Watrous 1992, 159–161, 175).

As the numbers of specimens currently attested and listed in Tables 5.1–5.3 make clear, this picture has changed dramatically over the past three and a half decades. Thanks to the pioneering publications of Kilian (1988b, 127, fig. 4) and Watrous (1992, 159–161), preliminary reports on the discoveries from the Uluburun wreck (Bass 1986; Pulak 1988, 1997, 2001, 2008; Bass et al. 1989), and Cline's synthetic overview of orientalia of

Site of Discovery[1]	Museum or Site Inventory Number (Date)	Cline 1994; CAP Group (Kommos only)	Publication Reference	Comments (Measurements in cm)
Akrotiri, Room Delta 9,1	#3767 (LM IA)	172, no. 325	Marinatos 1976, 15, 30, pls. 19a, 19b, 49b; Kilian 1988b, fig. 4, variant 1 = Killebrew 2007, fig. 4, form CA21a	H. 58.0, diam. rim ca. 12.8, max. diam. ca. 38.2; complete vessel except for one missing handle; ovoid body profile with no hint of carination
Kommos, Central Hillside[2]	C4771 (LM IB)	173, no. 330; Group 1	Watrous 1992, 160, no. 1948	—
Kommos, House X, Room 1	C12041 (LM IB Late)	—; unidentified	Fig. 5.1:a (no. X1:3/10)	Max. pres. h. (comp. and rest.) 48.5, max. diam. 36.0
Poros, tomb	Heraklion Museum P30420 (LM IB–II)	—	Stampolidis and Karetsou, eds., 1998a, 56, no. 2 = Stampolidis and Karetsou, eds., 1998b, 106, no. 2	H. 55, diam. rim 12, max. diam. 36
Poros, Liouni Plot	#27/04 (LM IB–II)	—	Banou 2011, 505, fig. 5	Max. pres. h. 49.5, max. diam. 33.0
Pseira, Building AD Center, Room AD 6	PS1158 (LM IB)	179, no. 387	Betancourt and Banou 1991, 108, 110, pl. 27; Betancourt and Davaras, eds., 1995, 115, no. ADC 65, 152, 153, fabric no. 6, fig. 50, pl. 29:C	11 body sherds
Zakros, Palace, SE Wing[3]	LM I	178, no. 385	Touchais 1982, 615	Sherds of one or more amphorae
Zakros, Palace, SE Wing[3]	LM I	178, no. 386	Catling 1989, 107	Sherds of one or more amphorae

Table 5.1. Syro-Palestinian amphorae from Neopalatial (LM I) contexts on Crete and contemporary Cycladic (LC I) contexts in the central Aegean islands. [1]The possible Canaanite jar fragment from a MM III context at Knossos cited by Cline (1994, 95) on the basis of a personal communication from J.A. MacGillivray is omitted here pending confirmation of the accuracy of its identification. [2]The Syro-Palestinian amphorae of Neopalatial date from Kommos (Central Hillside) in this table include all examples so far recovered at the site from contexts datable within this entire period (MM III–LM IB Final). [3]The date of both series of Canaanite jar fragments reported from Zakros is given as LM IA by Cline (1994, 178), but neither of the contexts in question is published in sufficient detail for this dating to be verifiable. It has therefore seemed preferable here to report their date rather imprecisely as simply LM I.

Site of Discovery	Museum or Site Inventory Number (Date)	Cline 1994; CAP Group (Kommos only)	Publication Reference	Comments (Measurements in cm)
Argos, Deiras, Chamber Tomb 6	Athens NM5661 (LH IIIA)	169, no. 296	Deshayes 1953, 69, pl. XXXI:2; Grace 1956, pl. IX:2; Åkerström 1975, 185, 187–188, 192, no. 9, fig. 7; Kilian 1988b, fig. 4, variant 3 = Killebrew 2007, fig. 4, form CA21a	H. 56.0, max. diam. 31.0
Asine, Chamber Tomb I:2	Nafplion Museum 2146 (LH IIIA)	169, no. 297	Åkerström 1975, 185, 187–188, 192, no. 10, figs. 1, 3; Kilian 1988b, fig. 4, variant 3 = Killebrew 2007, fig. 4, form CA21a	Max. pres. h. 39.5, max. diam. 35.0
Athens, Agora Chamber Tomb I	Agora Museum P 15358 (LH IIIA:1)	168, no. 294	Grace 1956, pl. IX:1, 4; Immerwahr 1971, 119, 159, 164, pls. 29:c, 31:8; Åkerström 1975, 188, 192, no. 11, fig. 6; Kilian 1988b, fig. 4, variant 2 = Killebrew 2007, fig. 4, form CA21a	H. 58.0, max. diam. 32.5; est. volume 22.575 liters; mark incised on one handle
Chania, Hagia Aikaterini Square	GSE 78-P0130 (Chania Museum 4742/11a–e) (LM IIIA:1)	179, no. 388	Kilian 1988b, 127, fig. 4, variant 5 = Killebrew 2007, fig. 4, form CA22; Stampolidis and Karetsou, eds., 1998a, 57, no. 4	12 sherds in 5 nonjoining fragments including the base and 2 handle stumps
Kommos, Building T[1]	C10723 (LM II)	—; unidentified	Rutter 2006b, 488, no. 45/9, pl. 3.49	Diam. rim 11, max. pres. diam. 29
Kommos, House X, Room 8[1]	C7061 (Heraklion Museum P30421) (LM IIIA:1)	175, no. 354; Group 5(?)	Watrous 1992, 160, no. 1951, fig. 72, pl. 53 = Fig. 5.1:b (no. X8:3/23); Stampolidis and Karetsou, eds., 1998a, 57, no. 3 = Stampolidis and Karetsou, eds., 1998b, 106, no. 3; Killebrew 2007, fig. 4, form CA21a	H. (comp. and rest.) 61.0 (est.), diam. rim 11.8, max. diam. ca. 41.5, diam. base 7.5
Kommos, House X, Room 7[1]	C8069+9014 (LM IIIA:2 Early)	177, no. 368; Group 4	Day et al. 2011, sample 98/55 = Fig. 5.2:b (no. X7:4/20)	Max. pres. h. 44.0, max. diam. 35.7
Kommos, House X, Room 4[1]	C9167 (LM IIIA:2 Early)	178, no. 377; Group 5	Day et al. 2011, sample 98/56 = Fig. 5.2:a (no. X4:2/15)	Max. pres. h. 41.8, max. diam. 36.0
Koukaki, chamber tomb on Dimitrakopoulou St.	(LH IIIA:1)	168, no. 295	Onassoglou 1979, 36–37, 268–269, pl. 12:a; Kilian 1988b, fig. 4, variant 3 = Killebrew 2007, fig. 4, form CA21a	H. 57.0, max. diam. 32.0; est. volume 25 liters; mark painted in red on body after firing
Mochlos, House Alpha, Room 4, Phase 1a	P2129 (LM II/IIIA:1–IIIA:2)	—	Soles 2005, 432; 2008, 32, no. IIB.684; Smith and Banou 2010, 83–84	Handle; max. pres. h. 7.1
Mochlos, House Alpha, Room 4, Phase 1a	P2138 (LM II/IIIA:1–IIIA:2)	—	Soles 2005, 432; 2008, 32, no. IIB.686; Nodarou 2010, 12, pl. 4:B; Smith and Banou 2010, 84, fig. 46	Rim; max. pres. h. 3.2
Mochlos, House Alpha, Room 4, Phase 1a	P2139 (LM II/IIIA:1–IIIA:2)	—	Soles 2005, 432; 2008, 32, no. IIB.687; Nodarou 2010, 12; Smith and Banou 2010, 84	Body sherd; max. pres. dim. 4.3 x 3.6
Mochlos, House Alpha, Room 4, Phase 1a	P2140 (LM II/IIIA:1–IIIA:2)	—	Soles 2005, 432; 2008, 32, no. IIB.688; Smith and Banou 2010, 84	Body sherd; max. pres. dim. 2.2 x 1.4
Mochlos, House Alpha, Room 4, Phase 1a	P2142 (LM II/IIIA:1–IIIA:2)	—	Soles 2005, 432; 2008, 32, no. IIB.689; Nodarou 2010, 12, pl. 4:A; Smith and Banou 2010, 84	Body sherd; max. pres. dim. 2.8 x 2.8
Tsoungiza, settlement	384-2-2 (LH IIB)	172, no. 322	unpublished	Max. diam. 30.5

Table 5.2. Syro-Palestinian amphorae from Monopalatial (LM II–IIIA:2 Early) contexts on Crete and contemporary Mycenaean (LH IIB–IIIA:1) contexts on the Greek mainland. [1]With regard to the large numbers of Syro-Palestinian amphorae imported to Kommos during this period (Rutter 2006a, 649–653, table 3.102), only those represented by comparatively large numbers of sherds and preserving substantial portions of their profiles are included in this table, roughly 10% of the total attested from a wide array of different contexts at the site.

all kinds from Aegean Late Bronze Age contexts (1994), the frequency with which Levantine transport amphorae were reaching the Aegean rapidly became more apparent. By 1995, aside from the more than 150 complete examples recovered both intact and in fragments at Uluburun, several score of mostly fragmentary examples had been identified at Kommos and roughly a dozen published from both Tiryns and Mycenae. The number of such amphorae included in Cline's catalog from sites other than shipwrecks added up to a total of more than 90 specimens from a total of 14 different sites (Cline 1994, 96, 168–179, nos. 294–301, 303–388). Over the past 15 years, significant developments with regard to such containers have been the gradual extension of their distribution to the north so as to include both Dimini in Thessaly (Adrimi-Sismani 2004–2005, 48; 2007, 165) and Troy (Zurbach 2003, 125, no. 130, fig. 26), along with the identification of additional, mostly highly fragmentary amphorae at a number of coastal settlements on Crete, including Mochlos (Soles 2005, 432), Palaikastro (MacGillivray 2007, 137, no. 654, fig. 4.32), Poros (Stampolidis and Karetsou, eds., 1998a, 106, no. 2), and Pseira (Betancourt and Banou 1991, 108, 110, pl. 27; Betancourt and Davaras, eds., 1995, 115, no. ADC 65, 152–153, fabric no. 6, fig. 50, pl. 29C; 1999, 276, nos. DA 65, 66, fig. 56).

The preceding review of the gradual discovery over the past generation of how numerous Syro-Palestinian amphorae actually are in Aegean Late Bronze Age contexts strongly suggests that many more remain to be identified among already excavated materials awaiting publication in excavation and museum storerooms throughout the southern Aegean (Cline 1994, 96–97). For example, the fragments thus far published from Tiryns, with the exception of a couple of very recently identified body sherds from the Northeastern Lower City (Stadt Nordost), consist exclusively of feature fragments, mostly marked handles or highly distinctive bases (Table 5.3); the example of Kommos and actual finds in the Tiryns excavation storerooms (P. Stockhammer, pers. comm., 2009) indicate that substantial numbers of featureless body fragments yet to be published will considerably increase the total figure for such Syro-Palestinian imports identified at Tiryns in the years to come. The numbers of those already published, however, are sufficient to allow certain hypotheses to be generated concerning the significance of their contexts of discovery and their distribution in space and time. Moreover, since transport vessels of this kind have over the past 15 years also become the target of programs of provenience analysis based on both the petrographic and the chemical makeup of their constituent clays and nonplastic inclusions (Mills and White 1989; Serpico 1996; Serpico and White 2000; Smith, Bourriau, and Serpico 2000; Stern et al. 2000, 2008; Bourriau, Smith, and Serpico 2001; Smith et al. 2004; Day et al. 2011), it is now also possible to say a good deal more about where along the Syro-Palestinian coast the containers dispatched to the Aegean are likely to have been produced and in some cases even what they may have initially contained.

Imports of Syro-Palestinian amphorae appear to have been few and far between during the two centuries or more spanned by the Neopalatial era on Crete and the contemporary terminal Middle Cycladic and Late Cycladic (LC) I phases in the Cyclades (Table 5.1). The earliest well-dated example from the Aegean (Table 5.1, notes on Kommos and Zakro), found in the ruins of Akrotiri on Thera (Marinatos 1976, 15, 30, pls. 19a, 19b, 49b), dates from the later Late Minoan (LM) IA period and is evidently the only specimen to have been recorded thus far from a Bronze Age context on any Aegean island other than Crete. On Crete itself, all reported examples come from coastal sites. When fully published, they prove to come from contexts dating no earlier than the LM IB period. The more fully preserved of the two examples of Neopalatial date from Kommos comes from a late LM IB context (Fig. 5.1:a). The fragments from Pseira may be slightly earlier (Betancourt and Banou 1991, 108, 110, pl. 27; Betancourt and Davaras, eds., 1995, 115, no. ADC 65, 152–153, fabric no. 6, fig. 50, pl. 29:C), while the complete example from a tomb at Poros may possibly date somewhat later (Stampolidis and Karetsou 1998b, 106, no. 2), as may an almost-complete example from the destruction deposit of a house at the same site (Banou 2011, 503, 505, fig. 5). None of these pieces feature incised or painted marks on their handles or bodies. Only the piece from Pseira has been subjected to careful petrographic analysis (Betancourt and Davaras, eds., 1995, 115, no. ADC 65, 152–153, fabric no. 6), but its fabric has not been attributed to a specific production center other than to one outside of Crete.

The fragment from the Central Hillside at Kommos (Watrous 1992, 160, no. 1948) has been examined macroscopically and tentatively identified by the Canaanite Amphora Project (CAP) as an example of CAP's Group 1 (Smith et al. 2004; M. Serpico, pers. comm., 2003).

After the collapse of Neopalatial culture on Crete, and during the period of roughly three generations when the island was dominated by an administration centered at Knossos that maintained records in the Greek language written in the Linear B script, the picture of Levantine ceramic imports

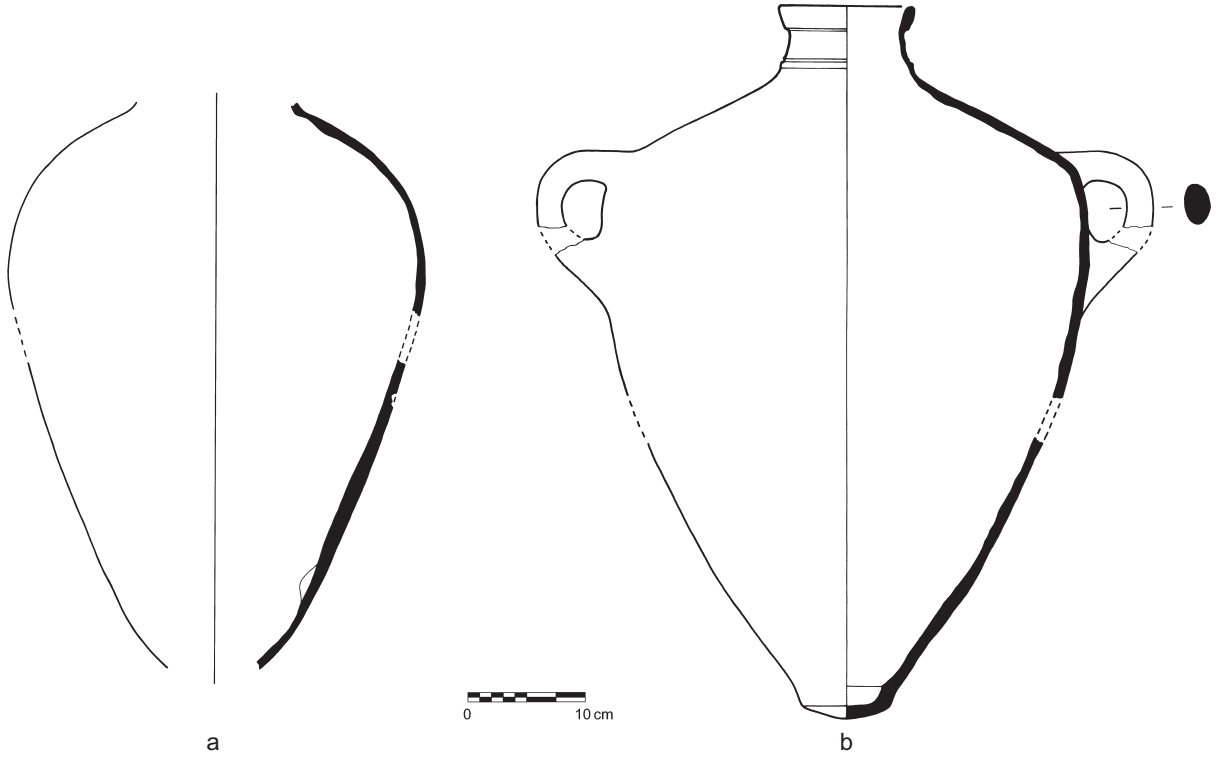

Figure 5.1. Syro-Palestinian amphorae from House X at Kommos, Crete: (a) X1:3/10 (C12041) from LM IB context in Room X1, and (b) X8:3/23 (C7061) from LM IIIA:1 context in Room X8. Drawings J. Pfaff and T. Ross.

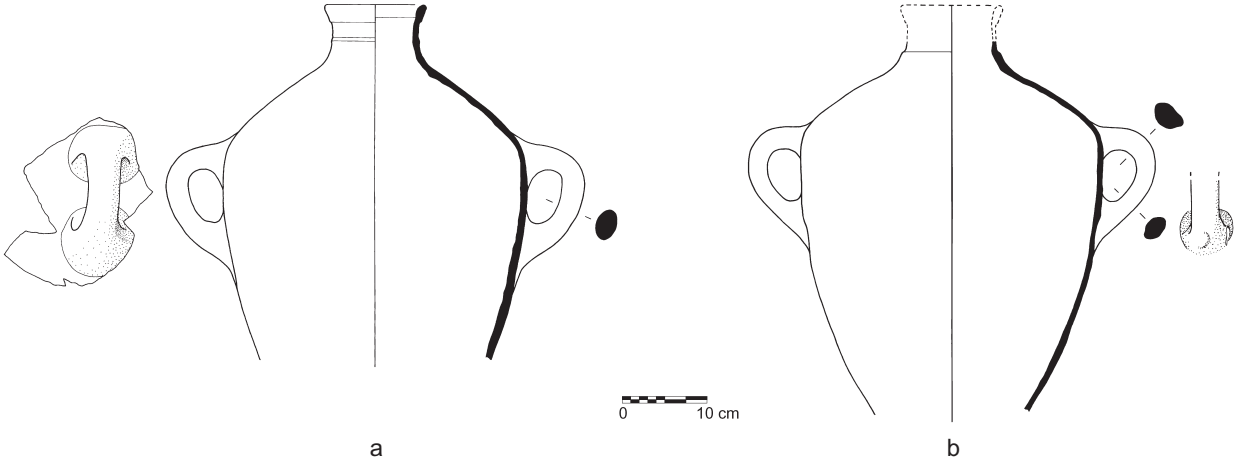

Figure 5.2. Syro-Palestinian amphorae from House X at Kommos, Crete: (a) X4:2/15 (C9167) and (b) X7:4/20 (C8069), both from LM IIIA:2 Early contexts in Rooms X4 and X7, respectively. Drawings J. Pfaff and T. Ross.

Site of Discovery	Museum or Site Inventory Number (Date)	Cline 1994; CAP Group (Kommos only)	Publication Reference	Comments (Measurements in cm)
Chania, dromos of Rovithaki Chamber Tomb 2	Chania Museum P9128 (LM IIIA)	—	Stampolidis and Karetsou, eds., 1998a, 57–58, no. 5 = Stampolidis and Karetsou, eds., 1998b, 106, no. 5	Rim, neck, handle, and shoulder fragment
Dimini, Megaron B, Room 5	(LH IIIB:2–C Early)	—	Adrimi-Sismani 2004–2005, 48, fig. 36; 2007, 165	Complete vessel with incised marks on handles
Dimini, settlement	(LH IIIB:2–C Early)	—	unpublished	Complete vessel
Kommos, settlement[1]	I43 (historic levels)	—; Group 1	Bennet 1996, 316, no. 17, pls. 4.47, 4.49; Rutter 2006b, 577, no. MI/SP/2	Handle fragment; incised mark on handle
Kommos, settlement[1]	I47 (LM IIIA:2)	174, no. 344; Group 5	Bennet 1996, 317, no. 13, pls. 4.47, 4.51; Rutter 2006b, 527–528, no. 56e/9, pl. 3.62; Killebrew 2007, fig. 4, form CA21a	Max. pres. h. 54.5 (comp. and rest.), max. diam. 37.8; neck, shoulder, and body sherds plus one handle; incised mark on handle
Magoula Galatas, Tholos 1	unknown (LH IIIA/B)	—	Konsolaki-Yiannopoulou 2003, 172, fig. 45, top	Handle fragment with incised mark
Menidi, tholos tomb	Athens NM2014 (LH IIIB)	169, no. 298	Lolling 1880, 24, 44, 48, pl. IX:2; Åkerström 1975, 187–188, 191, no.1, fig. 8; Kilian 1988b, fig. 4, variant 6 = Killebrew 2007, fig. 4, form CA22	H. 50.5, max. diam. 24.2; incised mark on one handle
Menidi, tholos tomb	Athens NM2015 (LH IIIB)	169, no. 299	Lolling 1880, 21, 44, 48, pl. IX:1; Åkerström 1975, 187–188, 191, no. 2, fig. 9; Kilian 1988b, fig. 4, variant 6 = Killebrew 2007, fig. 4, form CA22	H. 53.0. max. diam. 24.5; incised mark on one handle
Menidi, tholos tomb	Athens NM2016 (LH IIIB)	169, no. 300	Lolling 1880, 24, 44, 48, pl. IX:2; Åkerström 1975, 187–188, 191, no. 3, fig. 10; Kilian 1988b, fig. 4, variant 6 = Killebrew 2007, fig. 4, form CA22	H. 55.0, max. diam. 26.8; incised mark on one handle
Menidi, tholos tomb	Athens NM2017 (LH IIIB)	169, no. 301	Lolling 1880, 21, 32, 44, 48, pl. IX:4; Åkerström 1975, 187–188, 191, no. 4; Kilian 1988b, fig. 4, variant 6 = Killebrew 2007, fig. 4, form CA22	H. 48.0; incised marks on handles and upper body
Mochlos, House Alpha, Room 4, phase 2	P2133 (LM IIIA:2–B)	—	Soles 2008, 30, no. IIB.685; Smith and Banou 2010, 84	Body sherd; max. pres. dim. 3 x 4
Mycenae, Chamber Tomb 58	Athens NM2924 (LH IIIA/B)	170, no. 303	Åkerström 1975, 187, 191, no. 5, fig. 11; Xenaki-Sakellariou 1985, 179, 184, pl. 78; Kilian 1988b, fig. 4, variant 5 = Killebrew 2007, fig. 4, form CA22	H. 55.5, diam. rim 12, max. diam. 25; complete profile; three marks incised in one handle
Mycenae, Chamber Tomb 58	Athens NM2925 (LH IIIA/B)	170, no. 304	Åkerström 1975, 187, 191, no. 6, fig. 12; Xenaki-Sakellariou 1985, 184; Kilian 1988b, fig. 4, variant 5 = Killebrew 2007, fig. 4, form CA22	Max. pres. h. 48, max. diam. 25
Mycenae, Chamber Tomb 95	Athens NM4569 (LH IIIA/B)	170, no. 305	Åkerström 1975, 187, 191, no. 7, fig. 13; Xenaki-Sakellariou 1985, 271, 273, pl. 134; Kilian 1988b, fig. 4, variant 5 = Killebrew 2007, fig. 4, form CA22	H. 54.5, diam. rim 11, max. diam. 25; complete profile; single mark incised in each handle

Table 5.3. Syro-Palestinian amphorae from Final Palatial (LM IIIA:2 [Developed] through IIIB) contexts on Crete and contemporary Mycenaean (LH IIIA:2 Late through IIIB:2) contexts on the Greek mainland. [1]With regard to the moderate numbers of Syro-Palestinian amphorae imported to Kommos during this period (Rutter 2006a, 649–653, table 3.102), only those represented by marked handles or preserving substantial portions of their profiles are included in this table, roughly 10% of the total attested from a wide array of different contexts at the site.

Site of Discovery	Museum or Site Inventory Number (Date)	Cline 1994; CAP Group (Kommos only)	Publication Reference	Comments (Measurements in cm)
Mycenae, Petsas House	04/16314 (Mycenae Museum BE 31417), 04/16307 (Mycenae Museum BE 31382) (LH IIIA:2)	—	Shelton 2010, 197; pers. comms., 14 August 2011, 11–12 October 2011	Handle and shoulder fragments, probably from same vase
Mycenae, Petsas House	<29>01/15009 (Mycenae Museum BE 30034) (LH IIIA:2/IIIB:1)	—	Shelton 2010, 197; pers. comms., 14 August 2011, 11–12 October 2011	Base fragment
Mycenae, Petsas House	04/16350 (Mycenae Museum BE 31746) (LH IIIA:2)	—	Shelton 2010, 197; pers. comms., 14 August 2011, 11–12 October 2011	Body sherd
Mycenae, Petsas House	06/16622 (Mycenae Museum BE 33198) (LH IIIA:2)	—	Shelton 2010, 197; pers. comms., 14 August 2011, 11–12 October 2011	Body sherd
Mycenae, Citadel House, Room 36	Mycenae 66-518 (LH IIIB)	170, no. 306	French and Taylour 2007, 319–320, Mycenae Museum BE 16753	Max. pres. h. 12.5, max. diam. 26.0
Mycenae, House of the Oil Merchant	Mycenae 50-513, Nafplion Museum 5384 (LH IIIB:1)	170, no. 307	Åkerström 1975, 187; Kilian 1988b, fig. 4, variant 5 = Killebrew 2007, fig. 4, form CA22	Max. pres. h. 26.0, diam. rim 18.0(?),[2] max. diam. 27.0
Mycenae, South House, Annex Storeroom	Mycenae 54-601, Nafplion Museum 11454 (LH IIIB:2)	170, no. 308	Wace 1955, 179, pl. 20:b; Åkerström 1975, 191–192, no. 8; Kilian 1988b, fig. 4, variant 6 = Killebrew 2007, fig. 4, form CA22	H. ca. 52, max. diam. 26.0; mark painted in red on upper body after firing
Mycenae, Causeway Deposit	Mycenae 60-214 (LH IIIB:2)	170, no. 309	Wardle 1973, 328, 331, no. 194, fig. 18, pl. 59:d; Kilian 1988b, fig. 4, variant 5	Body fragment with complete handle; incised mark on handle
Mycenae, Citadel House: wash level	Mycenae 64-489 (LH IIIC Middle)	171, no. 310	—	Lower body sherd
Palaikastro, Well 605	PK99/6679, #1790 (LM IIIA:2)	—	MacGillivray 2007, 137, no. 654, fig. 4.32	Max. pres. h. 15.5, max. pres. diam. 36 (erroneously reported as 18); shoulder fragment
Pseira, Building DA, Room 1	PS2484 (LM IIIA–IIIB)	—	Betancourt and Davaras, eds., 1999, 276, no. DA 65, fig. 56	Lower body sherd
Pseira, Building DA, Room 1	PS2485 (LM IIIA–IIIB)	—	Betancourt and Davaras, eds., 1999, 276, no. DA 66, fig. 56	Body sherd
Pylos, Tholos Tomb 3	Pylos 39.1303, Athens NM 9138 (LH IIIB)	172, no. 323	Åkerström 1975, 185, 187, 192, no. 12, figs. 2, 4, 5; Blegen et al. 1973, 94, fig. 174:4a, b; Kilian 1988b, 127, fig. 4, variant 5 = Killebrew 2007, fig. 4, form CA22	Max. pres. h. 38.5, max. diam. 29.3; incised mark on body at midpoint between handles
Thebes, chamber tomb at Gerokomeion Hill	Thebes Museum (LH III?)	172, no. 324	Pharaklas 1967, 228; Symeonoglou 1985, 52, 289	—

Table 5.3, cont. Syro-Palestinian amphorae from Final Palatial (LM IIIA:2 [Developed] through IIIB) contexts on Crete and contemporary Mycenaean (LH IIIA:2 Late through IIIB:2) contexts on the Greek mainland. [2]Published diameter of 18 cm seems improbable on the basis of rim diameters of other comparably sized jars published in this table.

Site of Discovery	Museum or Site Inventory Number (Date)	Cline 1994; CAP Group (Kommos only)	Publication Reference	Comments (Measurements in cm)
Tiryns, south of Building 6	Tiryns LXII 43/43 XIV (LH IIIB)	171, no. 311	Kilian 1988a, 129, fig. 25:12; Kilian 1988b, 127, fig. 4, variant 5	Max. pres. h. 21.0, diam. base 5.0; base and lower body
Tiryns, south of Building 6	Tiryns LXII 43/39 Ofl. XI no. 16 (LH IIIB)	171, no. 312	Olivier 1988, 260, 268, no. 31, figs. 2:31, 5:31	Shoulder and handle fragment; incised mark on handle
Tiryns, settlement	Tiryns LXIII 34/36 III + LXIII 34/46 III (LH IIIB:2)	171, no. 313	Kilian 1988a, 128, fig. 24:7; Kilian 1988b, 127, fig. 4, variant 4	Max. pres. h. 36.0, diam. base 7.5; base and lower body;
Tiryns, settlement	Tiryns 1968 I1 PF, H2 (LH IIIB:2)	171, no. 314	Kilian 1988a, 129, fig. 25:13; Kilian 1988b, 127, fig. 4, variant 5	Base, handle, and body sherds
Tiryns, South Syrinx	Tiryns 27412 (NS Z4) (LH IIIB:2)	171, no. 315	Döhl 1978, 141–142, no. 77, fig. 5, pls. II, VI; Olivier 1988, 259, 268, no. 27, fig. 3:27	Shoulder fragment; two incised marks on body
Tiryns, Unterburg, passage to North Gate	Tiryns LXIII 35/25 V 13-27 (LH IIIB:2)	171, no. 316	Olivier 1988, 255, 266–267, no. 13, figs. 2:13, 5:13; Maran 2008, 56, fig. 35; Stockhammer 2008, 324 n. 1150	Large fragment preserving rim, neck, shoulder, and both handles; both handles bear incised marks, two on one handle
Tiryns, Southern Citadel, surface level	Tiryns LXII 43/33 XV c 8/246 (LH IIIB:2)	171, no. 317	Olivier 1988, 256, 267, no. 14, fig. 1:14	Handle fragment; mark incised on handle
Tiryns, northwest of Building VI	Tiryns LXI 40/93 XII a (LH IIIB2)	171, no. 318	Olivier 1988, 259–260, 268, no. 29, fig. 2:29	Body sherd and handle; two incised marks on handle
Tiryns, settlement	Tiryns LXII 43/93 Ofl. XII no.18 (LH IIIB:2)	171, no. 319	Kilian 1988b, 127, fig. 4, variant 5 = Killebrew 2007, fig. 4, form CA22	—
Tiryns, above Building III	Tiryns 65II/2 MA STR.E. (LH IIIC)	172, no. 320	Olivier 1988, 259, 268, no. 28, figs. 3:28, 5:28	Shoulder and handle fragment; incised mark on handle
Tiryns, south of Building VI	Tiryns LXII 42/45 V (LH IIIC)	172, no. 321	Olivier 1988, 254, no. 7, figs. 1:7, 4:7	Handle fragment; two incised marks on handle
Tiryns, near surface	Tiryns LXII 45 Ib G4 (Medieval level)	—	Olivier 1988, 260, no. 30, figs. 2:30, 5:30	Shoulder and handle fragment; incised mark on handle
Tiryns, Stadt Nordost, Phase 1 or 2	Tiryns LXVIII 31/27 IX (LH IIIC Early)	—	Stockhammer 2008, 156	Body sherd
Tiryns, Stadt Nordost, Phase 2 or later	Tiryns LXVIII 30/88 IX (LH IIIC Early or later)	—	Stockhammer 2008, 195 n. 740	Body sherd
Troy VI Late–VIIA	K04/0472 (016) (Korfmann excavation)	—	Zurbach 2003, 125, no. 130, fig. 26	Handle fragment; two(?) incised marks on handle

Table 5.3, cont. Syro-Palestinian amphorae from Final Palatial (LM IIIA:2 [Developed] through IIIB) contexts on Crete and contemporary Mycenaean (LH IIIA:2 Late through IIIB:2) contexts on the Greek mainland.

to the Aegean undergoes some significant shifts (Table 5.2). Large numbers of Syro-Palestinian amphorae represented by both fully restorable vessels and single sherds have been found at Kommos in contexts dating between LM II and LM IIIA:2 Early (Figs. 5.1:b, 5.2:a, b; Rutter 2006a, 649–653,

table 3.102). The latter date is accepted here as marking a major destruction by fire of the palace at Knossos that appears to have resulted in the permanent eclipse of the dominance that Knossos had enjoyed not only on Crete but throughout the southern Aegean during the preceding 75–100 years. A cluster of Syro-Palestinian amphora fragments is also reported from Room 4 of the largest domestic structure identified within the reoccupied settlement at Mochlos, possibly to be identified as the residence of the village's LM III founder, a Knossian dependent with the rank of a *telestas* according to the site's excavator (Soles 2005, 432; 2008, 32, 186–187, 200–202, nos. IIB.684, IIB.686–IIB.689, figs. 4–8; Smith and Banou 2010, 83–84, fig. 46:IIB.686; Nodarou 2010, 12, fabric 13). The first such amphora from a West Cretan context also dates from this era in the form of a fragment recovered from a LM IIIA:1 settlement context at Chania (Chania GSE inv. no. 78-P0130; Stampolidis and Karetsou, eds., 1998b, 57, no. 4). The absence of Syro-Palestinian amphorae from Cretan tombs of this period is noteworthy (Cline 1994, 96). So, too, is their concentration at the harbor of Kommos, considered on the basis of these and other imports from outside Crete to have become at this time the principal harbor town on Crete's south coast serving the interests of the Knossian palatial establishment (Rutter 2006a, 685–686). As during the earlier Neopalatial era, Levantine amphorae were evidently not allowed to be transported into the island's interior, thus perhaps accounting for their absence from the numerous rich Knossian tombs of the LM II–IIIA:2 periods (Rutter 1999, 142, 152–153 nn. 32–33). Moreover, such amphorae continue to lack any incised markings on their handles.

More significant than the comparatively minor shifts in the Cretan evidence for these amphorae, apart from the impressive growth in their frequency at the single site of Kommos, are the substantial changes to be noted with respect to their mainland Greek distribution. Not only are such containers now found for the first time on the mainland but they appear at a fair number of different sites sprinkled throughout the northeastern Peloponnese (Argos, Asine, Tsoungiza) and Attica (Athens, Koukaki), most located at some distance from the sea. While all such amphorae on Crete during this era come from settlement contexts, usually in the form of comparatively small fragments, all except a single large fragment from LH IIB Tsoungiza (Cline 1994, 172, no. 322) were found in LH IIIA chamber tombs as single complete vessels. In view of their impressive state of preservation that makes them far more readily identifiable than the plain body sherds by which their contemporaries on Crete are usually represented, the absence of such vessels from the southern Peloponnese (Laconia and Messenia) and areas to the north of Attica (Boeotia, Phocis, Locris) or westward along the Gulf of Corinth (Achaea, Phocis, Aetolia, Elis) is likewise potentially significant. Unlike the Syro-Palestinian amphorae of this period from Crete, two of those from mainland Greek contexts, both from Attica, are marked. The jar from Agora Chamber Tomb I in Athens bears a mark incised after firing near the top of one of its handles (Immerwahr 1971, 164, no. I-8, pl. 31:8), while that from a chamber tomb at Koukaki carries a painted red mark applied to its upper body after firing (Onassoglou 1979, 36–37, pl. 12:a). Virtually identical in size and from closely contemporary contexts, these two vessels are estimated to have had capacities of 22.575 (Athens) to 25 (Koukaki) liters. The practice of marking vases after firing in these ways in the Late Bronze Age eastern Mediterranean, especially transport vessels such as Syro-Palestinian amphorae, Cretan coarse ware stirrup jars, and large Mycenaean piriform jars and stirrup jars, has been shown to be a peculiarly Cypriot habit, whether or not the containers so marked are of Cypriot manufacture (Hirschfeld 2002, 2004, 2008). The fact that just two of the substantial numbers of Syro-Palestinian amphorae deposited in Aegean contexts during this period bear such signs, coupled with the discovery of the two jars in two relatively nearby tombs in the Attic interior, suggests that they may have been transported to an Attic coastal site by Cypriot middlemen. At whose initiative these jars were sent to Attica, however, must remain an open question. For example, they might have come to the Athens area directly from Cyprus, or alternatively they could have been brought to Attica from a Cretan harbor in a ship manned by a Cypriot crew.

Petrographic and chemical analyses of a little over half of the total number of Syro-Palestinian amphorae imported to Kommos (Day et al. 2011), the vast majority of them datable to this LM II–IIIA:2 Early era of Knossian dominance (Table

5.4), have shown that the bulk of these vessels were produced in the same regions of the Levantine littoral as the majority of similar vessels imported to the Egyptian centers of Amarna and Memphis during the second half of the 18th Dynasty (Bourriau, Smith, and Serpico 2001; Smith et al. 2004; Rutter 2006a, 651–652; Day et al. 2011). In addition to the resins probably shipped to the Aegean in amphorae of CAP's Groups 1 and 2 from coastal regions in and to the south of the Bay of Akko, even more popular were the imports of oil that were most commonly transported in jars of Groups 4 and 5 from production centers along the coasts of Lebanon and northwestern Syria. One of the latter jars found in House X at Kommos (J. Rutter, pers. obs., no. X4:2/15 [C9167] = Day et al. 2011, sample 98/56) appears to have contained orpiment, the bright yellow arsenical sulfide used as a pigment or as a depilatory in the tanning industry and one of the many substances being transported in similar jars on the ship that sank toward the end of the 14th century at Uluburun (Pulak 2001, 30; 2008, 294). It is also quite possible that some of these amphorae contained wine (Leonard 1995), perhaps especially those that were included in Mycenaean tomb assemblages (Rutter 1999, 153 n. 33). No residue analyses known to me have yet been conducted on Syro-Palestinian amphorae from Aegean contexts.

After the violent destruction of Knossos early in the LM IIIA:2 phase (ca. 1370 B.C.), the distribution pattern of Syro-Palestinian amphorae imported into the Aegean over the ensuing 150–175 years changed once again and evidently rather abruptly (Table 5.3). On Crete, the number of such amphorae from LM IIIA:2 Developed and LM IIIB

Day et al. 2011: Petrographic Group	Day et al. 2011: Chemical Group	Smith et al. 2004 Group	Source of Smith et al. 2004 Group	Examples Tested at Kommos (Rutter 2006b, Day et al. 2011[1], present article)
p. 530, group 1a (4 samples: 98/51, 64, 73, 84)	p. 541, group VIII (3 samples: 98/51, 73, 84)	1	Jezreel Valley	Rutter 2006b, nos. 52c/5, 60/30, MI/SP/11 (chemical outlier: Rutter 2006b, no. 57i/3)
p. 530, group 2 (11 samples: 98/56, 59, 68, 71, 72, 74, 75, 78, 80, 81, 86)	p. 541, group V (9 samples: 98/56, 59, 68, 71, 74, 75, 78, 80, 86)	5 (low quartz)	Akkar Plain, Lebanon	Rutter 2006b, nos. 56e/9, 57c/2, 77/7, MI/SP1, 6, 7, 9, 10; Fig. 5.2:a (chemical outliers: Rutter 2006b, sample MI/SP/3; Day et al. 2011, sample 98/69; Fig. 5.2:b)
p. 531, group 3 (4 samples + 1 related: 98/60, 63, 67, 85 + 98/82)	p. 539, group IV (5 samples: 98/60, 63, 67, 82, 85)	2	Coastal strip west of Carmel ridge south of Haifa	Rutter 2006b, nos. 52c/6, 72/6, 72/7 (related: Rutter 2006b, no. 52a/10)
p. 531, group 4 (3 samples: 98/70, 79, 83)	p. 541, group VII (3 samples: 98/70, 79, 83)	5 (high quartz)	Coastal plain between Akko and Sidon	Rutter 2006b, nos. 52g/1, 52h/1
pp. 530–531, groups 2 or 4 (1 related: 98/61)	p. 536, group I (1 sample: 98/61)	—	—	Rutter 2006b, no. 74/1
pp. 531–532, group 5 (2 samples + 1 related: 98/58, 65 + 98/62)	p. 541, group IX (2 samples: 98/58, 65)	4.1.1 (related: 4.2.2)	Ras Shamra area (related: Cyprus?)	Rutter 2006b, nos. 55/6, 66/15 (chemical outlier, related: no. MI/SP/4)
pp. 532–533, group 7 (2 samples: 98/55, 69)	loosely clustered chemical outliers; fig. 7:98/55	4.1.1	Ras Shamra area	Day et al. 2011, sample 98/69; Fig. 5.2:b
p. 533, group 8 (1 sample: 98/77)	chemical outlier; fig. 7:98/77	—	—	Rutter 2006b, no. MI/SP/5
p. 533, group 10 (1 sample: 98/38)	chemical outlier; fig. 7:98/38	—	—	Rutter 2006b, no. 45/9
p. 534, group 12 (1 sample: 98/57)	chemical outlier; fig. 7:98/57	—	—	Rutter 2006b, no. MI/SP/8

Table 5.4. Results of petrographic and chemical analyses applied to Syro-Palestinian jars from Monopalatial and Final Palatial contexts (LM II–IIIB) at Kommos. [1]For concordances of Rutter 2006b catalog entries and Day et al. 2011 sample numbers with Kommos excavation numbers, see Shaw and Shaw 2006, 905–920, and Day et al. 2011, 514–515, table 1.

contexts at Kommos declines to about 60% of the number attested from the preceding Monopalatial era that lasted only about half as long (Rutter 2006a, 650, table 3.102). Fragments continue to appear in small quantities in settlement debris from other coastal sites on Crete (Mochlos, Palaikastro, Pseira), but only at Chania is an example reported from a funerary context in the form of a substantial fragment from the upper body, neck, and rim of a jar found in the dromos of a chamber tomb (Stampolidis and Karetsou, eds., 1998b, 106, no. 5). A minor novelty of this period on Crete is the appearance of the first Syro-Palestinian amphora to have a postfiring mark incised on its handle (Bennet 1996, 317, no. 13, pls. 4.47, 4.51; Rutter 2006b, 527–528, no. 56e/9, pl. 3.62), a practice already noted as indicative of specifically Cypriot handling of such jars in the increasingly frequent intercultural exchanges of basic commodities and manufactured goods from ca. 1350 to 1200 B.C. (Hirschfeld 2002, 2004, 2008). At some point during the later 14th century, oil of the varieties once imported to the island in amphorae of CAP's Groups 4 and 5 seems to have ceased to be as desirable as it had been earlier, to judge from the absence of such amphorae from LM IIIB contexts at Kommos. Amphorae of CAP's Groups 1 and 2, however, in which terebinth and perhaps also other resins were commonly shipped, continued to be imported (Rutter 2006a, 652).

By the 13th century B.C. the chief port of entry for Syro-Palestinian amphorae within the Aegean was no longer Kommos but Tiryns, to judge from the sizable number of fragments reported at that site from settlement contexts, including at least seven handles with incised marks and a comparably incised body sherd (Table 5.3; also P. Stockhammer, pers. comm., 2009). In addition, roughly the same number of such amphorae attested at contemporary Mycenae, among them three complete examples from a pair of chamber tombs, one complete jar from the South House with a mark painted (after firing?) on its upper body (Wace 1955, 179, pl. 20:b), and at least one handle with an incised mark from a settlement context (Wardle 1973, 331, no. 194, fig. 18, pl. 59:d), probably reached their final inland destination by way of the harbor at Tiryns. Much smaller numbers of these amphorae have been discovered at other mainland Greek sites, all of them from tombs except for two recently found complete among the debris associated with the destruction of the impressive megaron complex at Dimini in Thessaly (Adrimi-Sismani 2004–2005, 48, fig. 36; 2007, 165). One striking aspect of the findspots of all complete Levantine amphorae from LH IIIB contexts on the mainland is their discovery at sites identifiable as royal centers (Mycenae, Pylos, Thebes, Dimini, and the Menidi tholos). All these jars except for the two from Dimini and one from Mycenae owe their impressive state of completeness to the fact that they were considered suitable as grave goods (Cline 1994, 96). In this respect, the contrast with the typical Cretan usage of such transport jars could not be plainer: the Minoans never allowed such jars into the interior portions of their island (Rutter 1999, 142, 150 n. 15, 152 n. 32) nor, with the exceptions of one early example from Poros (Table 5.1) and one late example from Chania (Table 5.3), did they consider such items appropriate for funerary use. Particularly Helladic is the deposition of four such jars in the royal tholos tomb at Menidi (Attica), all of them marked at least once, again presumably by Cypriot handlers (Lolling 1880, pl. IX; Åkerström 1975, 191, nos. 1–4, figs. 8–10). The single jar from a tholos tomb at Pylos (Messenia) was also marked (Blegen et al. 1973, 94, fig. 174:4a, b; Åkerström 1975, 185, 187, 192, figs. 2, 4, 5).

Although occasional fragments of Syro-Palestinian amphorae have been found in postpalatial LH IIIC contexts on the Greek mainland (at Mycenae and Tiryns: Table 5.3) and also in mixed contexts extending all the way down into the Archaic period at Kommos (Rutter 2006a, 650, table 3.102), the importing of complete transport vessels of this kind into the Aegean appears to have come to a very sudden end with the destruction of most known Mycenaean palatial establishments at the very end of the LH IIIB:2 phase, as at Mycenae and Tiryns, or very shortly thereafter, as at Pylos and Dimini (Maran 2005, 425). It would therefore appear that the traffic in such containers, especially with respect to those being delivered to the Greek mainland during the 13th century B.C., was intimately connected with the palaces themselves and thus might be considered as "royal" in its organization. Indeed, this royal connection within the Mycenaean sphere was already apparent from the distribution of such amphorae exclusively at palatial sites or in royal tombs at this time.

As noted at the very outset of this essay, large numbers of the Levantine transport vessels commonly known as Canaanite jars almost certainly remain to be identified among the tens of thousands of undecorated feature sherds and, above all, body fragments awaiting further study and final publication from already excavated coastal sites throughout the southern Aegean. The preceding summary review should therefore be viewed as little more than a temporary assessment of the significance of these distinctive transport vessels, one that makes no pretense of being comprehensive or complete in its coverage. The manner of presentation selected here for the survey of the evidence published to date on this subject has been designed to highlight changes through time as well as differences between the Minoan and Mycenaean patterns of usage with respect to these vessels. As it presently stands, the evidence allows the following hypotheses to be suggested concerning the nature of the Late Bronze Age exchanges attested by these amphorae between harbors up and down the Syro-Palestinian coast, possibly around Cyprus as well, and at different ports of entry within the Aegean over roughly four centuries.

During the first couple of these centuries spanned by the LM/LC I period, the comparatively few amphorae of this type that reached the Aegean appear only on the islands of Crete and the Cyclades, only at coastal locales, and overwhelmingly in settlement contexts (Table 5.1). Only one of these imported amphorae from Pseira has so far been examined petrographically, and of the two from Kommos the fabric of only one has been recognized from macroscopic examination as an example of CAP's Group 1, probably produced in the Jezreel Valley (Tables 5.1, 5.4). The identification of who the carriers may have been can be little better than guesswork with the slim amount of evidence thus far available, but the small quantities of such jars and their discovery at a number of different sites, none of them palatial at the time of the jars' deposition, suggest that the carriers may have been either Levantine merchants pursuing small-scale exchanges or, alternatively, Minoan or Cycladic traders returning home with an occasional jar of exotic wine, oil, or aromatic resin from voyages to the east.

The major change that takes place during the roughly 75 years of the LM II–IIIA:2 Early domination of Crete, and probably much of the southern Aegean, by the palatial establishment at Knossos is perhaps most likely to be the result of that administration's direct involvement in the importing of quantities of resin and exotic varieties of oil by way of such Levantine emporia as Ugarit in the north, Tell Abu Hawam and Tell Nami in the south, and possibly a number of other sites in between along the Lebanese and Cypriot coasts. The discovery at Kommos of at least one amphora that appears to have contained orpiment indicates that products other than oil and resin were also exchanged in such jars. The surviving evidence suggests that most of this traffic reached Crete by way of the gateway harbor site of Kommos, although one may suspect that just as much if not more would have entered the island by way of a northern port closer to Knossos, in all likelihood that located at Poros-Katsamba. The small numbers of jars that ended up being deposited intact in Attic and Argive chamber tombs during this era may well have been royal gifts dispensed to allies and dependents, or perhaps simply relatives and friends, of the powerful rulers of Knossos. The carriers of this traffic in amphorae might have been ships under the direct control of the Knossian dynasts, although some sort of royal gift exchange between Levantine rulers (e.g., the king of Ugarit) and those in power at Knossos is also a possibility.

Of chief importance at this time was the position of Knossos as the controller of these exchanges at the Aegean end. Thus the small numbers of Levantine amphorae from Mycenaean tombs are to be interpreted as representative of a secondary pattern of distribution of these items from Knossos rather than as evidence for direct contacts between the Greek mainland and the Levant. Likewise, the fragments of several different jars recovered from the largest room in the most impressive residence of this period at Mochlos may have been redistributed to that site from Knossos rather than having been imported directly from the Levant. The fact that no other Canaanite jar fragments have been identified in any other space within the settlement at Mochlos (J.S. Soles, pers. comm., 2009), a picture of this ceramic type's distribution within the settlement that is altogether distinct from that at contemporary Kommos, certainly suggests that the Mochlos jars should be interpreted in a fundamentally different way from those at Kommos. If

they were gifts from Knossian dynasts to the village headman at Mochlos, as seems quite likely, it is striking that this headman did not choose to be buried with at least one or two of them in the nearby cemetery, where a tomb that has been argued on other grounds to have belonged to such a figure has been cleared (Soles 2008, 157–161 [tomb 15], 200–202, tables 1–5, figs. 100–102, pls. 28, 29).

The marking of at least two amphorae deposited in Attic tombs during this period with incised or painted signs almost certainly shows that Cypriot handlers were involved at some level in the distribution of these vessels. One may question, however, exactly what this evidence for Cypriot involvement signifies. For example, the marks need not imply the delivery of these vessels directly from Cyprus, nor need they be evidence for the ethnicity of whoever may have caused the jars to be sent to Athens at this time.

The destruction of Knossos early in the 14th century B.C. and that site's subsequent failure to recover its former power and preeminence necessarily put an end to the mode of organization of this trade in Levantine amphorae as it had been up to that time. The nature of subsequent exchanges of such containers during the remainder of the 14th century cannot be reconstructed with any real confidence until more well-dated Aegean contexts of this period containing Syro-Palestinian amphorae in primary use have been published. All too many of the amphora fragments from Kommos, for example, are comparatively small body sherds deriving from large construction fills with ceramic contents ranging widely in date, thus usually precluding close dating of the amphora fragments themselves. The Uluburun wreck, however, suggests that royal gift exchange between Levantine and Aegean rulers continued as late as at least the end of the century (Bachhuber 2006; Pulak 2008), albeit presumably not involving a ruler residing at Knossos but rather one whose chief harbor town was located at Tiryns.

Certainly by the 13th century B.C., the principal consumers of Syro-Palestinian amphorae in the Aegean had shifted from Crete to the Argolid. The frequent occurrence of incised marks on the handles and bodies of imported Levantine amphorae from the mid 14th century B.C. onward suggests that much of the trade in these jars may now have been in Cypriot hands rather than in those of mainland Mycenaean or other Aegean traders. Like the traffic in these jars during the era of Knossian dominance, however, this particular dimension of Mycenaean foreign exchanges appears to have been purely a royal one, at least as far as the Mycenaean mainland was concerned. The single examples of such jars from tombs at sites such as Pylos and Thebes, and possibly even the multiple examples from the Menidi tholos just northwest of Athens, may have been royal gifts distributed to friends and allies by an Argive ruler in much the same fashion as they had once been passed around by Knossian rulers.

Indeed, for those who view Mycenae and Tiryns as royal citadels of one and the same kingdom during the 13th century B.C., with Tiryns serving as the kingdom's principal port and Mycenae as its capital, at least as late as the ruinous LH IIIB:2 Early earthquake that apparently caused major damage to buildings at Mycenae, the concentration of later Syro-Palestinian amphorae at these two sites (Table 5.3) may offer an instructive mainland Greek parallel for the similar but earlier concentration of such amphorae at Kommos (and potentially also at Poros-Katsamba). In the earlier case (Table 5.2), the amphorae were neither carried inland to Knossos or Hagia Triada nor deposited in richly furnished tombs at the capital. Nevertheless, occasional amphorae appear to have been deposited in high-status tombs at coastal sites (Table 5.1: example from Poros; Table 5.3: example from Chania) or to have been used as exotic storage vessels by local village chiefs (Tables 5.2, 5.3: examples from Mochlos). In the latter case, the Argive ruling elite may have collected Syro-Palestinian amphorae in much the same way as Boeotian and Argive rulers amassed Cretan transport stirrup jars (Maran 2005, 427–429; Stockhammer 2009, 168). They may then have dispensed small numbers of these imported Levantine jars, both for their contents and as symbols of royal favor, to their allies and friends, both within their own kingdom and beyond.

By contrast, the distribution of Cretan transport stirrup jars in mainland Greek contexts takes quite a different form, with very few being deposited in tombs and most being concentrated in large numbers in a small number of storage facilities at Mycenae, Tiryns, Midea, and Thebes (Stockhammer 2008, 274–276). This distinctive hoarding of large stirrup jars, in what appear to be specially designated, probable storerooms at just four

Mycenaean citadels, three clustered in the Argolid and one in Boeotia, in turn diverges markedly from the manner and locales in which Cypriot and Levantine owners disposed of identical types of Minoan transport stirrup jars as well as of equally large Mycenaean stirrup jars typically produced in much finer fabrics (Stockhammer 2008, 276 and n. 947). The royal hoarding of Minoan stirrup jars on the Mycenaean mainland may have an antecedent of sorts in a concentration of five handsomely decorated LM II–IIIA:1 examples of the shape in a context of City VIF at Troy (Blegen, Caskey, and Rawson 1953, 306–307, fig. 330; Mountjoy 1997, 285, nos. 14–18, fig. 6). Stockhammer has recently provided us with an interesting glimpse of how varied the meanings of the stirrup jars appear to have been when their spatial distributions are subjected to careful scrutiny both quantitatively and diachronically (Stockhammer 2008, 274–283; 2009). We clearly have much more to learn about the complex social significance that such transport vessels may have had in regions where they were not at home.

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TA-RA-SI-JA

Industry and Craft Specialization

CHAPTER

6

The Emergence of Craft Specialization on the Greek Mainland

William A. Parkinson and Daniel J. Pullen

Of Cynthia Shelmerdine's various contributions to our understanding of the prehistoric Aegean, her research on the organization of specialized craft industries in the Mycenaean period, and especially on the manufacture of perfumed oil at Pylos (Shelmerdine 1985), stands out as truly exceptional.* By melding her intimate understanding of Linear B texts with the spatial patterning of artifacts within the palace, Cynthia painted a detailed picture of how exotic raw materials were acquired and combined to produce the perfumed oils. She also demonstrated where this specialized production occurred within the palace, how the process was financed, and how the finished product was monitored. From our perspective, one of the most intriguing aspects of Cynthia's research is the clarity with which she was able to articulate how the perfumed oil industry was controlled by the palatial elite and how this specialized craft industry operated within the greater context of the political economy at Mycenaean Pylos.

The production of perfumed oil was but one of many specialized and skilled industries that occurred under the auspices of palatial control during the Mycenaean period, although the precise nature of that control is still hotly debated (see Galaty and Parkinson 2007a, 2007b). There is no doubt, for example, that members of the palatial elite at Pylos also were very concerned with monitoring the

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production of metal objects. But only some steps in the production of metal artifacts occurred at the palace itself (Schon 2007). In contrast to perfumed oils, for which many aspects of production occurred at the palace proper, most aspects of bronze production occurred off-site via the *ta-ra-si-ja* system, with only some finished products, such as chariots, being assembled at the palace. Both of these specialized industries were documented meticulously in the Linear B tablets (Shelmerdine and Palaima, eds., 1984), even though they represent varying forms of specialized production, one more decentralized and the other more centralized. The fact that they were carefully recorded in the tablets suggests that although these specialized craft industries were organized differently within the political economy, they both were still very important to the Pylian elites.

Other crafts that occurred within the Pylian political economy were referred to only sporadically in the Linear B archives, such as the production of ceramics (Galaty 2010, 238–239), or not at all, such as the production of obsidian blades (Parkinson 2007). This dearth of references indicates a lack of concern on the part of the palatial administrators for monitoring and controlling these industries, most likely because they were perceived as being less critical to the successful operation of the palatial political economy.

Introduction: Craft Production and the Political Economy of the Bronze Age Aegean

By studying how different craft industries were integrated into the Pylian political economy, it is possible to learn a great deal about the organizational strategies that were employed by the palatial elite in wielding control over the state. Knowledge of these organizational strategies can then be used to help model how different Mycenaean states emerged in different parts of the Greek mainland (Parkinson and Galaty 2007). Defining these strategies is critical for modeling the extent to which the palaces performed a "redistributive" function within the economy (Nakassis, Parkinson, and Galaty 2011) and how the palatial elite in different Mycenaean polities tried to exercise their authority over their subjects. The study of how craft industries were incorporated into the political economies of different Mycenaean states, therefore, can be helpful in modeling how those different polities emerged within their respective regions (Wright 2004).

In this article, we track the organization of two industries—ceramic production and obsidian blade production—throughout the Bronze Age on the Greek mainland. By examining how these industries were organized and how they articulated with the emergence of palace-centered political systems in different regions, we hope to learn more about the dramatic variability that occurred between the organization of the states at Pylos and Mycenae during the Late Bronze Age. We approach the organization of production through the theoretical framework outlined by Cathy Costin (1991) and others (e.g., Clark and Parry 1990; Perlès 1990b, 1992; Perlès and Vitelli 1999), which models the organization of production along several axes. The skilled production of obsidian blades occurred throughout the Bronze Age in some regions at specific, usually coastal, settlements, and it appears never to have come under control of palatial centers on the Greek mainland (Cherry and Parkinson 2003; Parkinson 2007, 2010; Parkinson and Cherry 2010). By contrast, the specialized production of ceramics exhibits a high degree of variation within different Mycenaean polities. At Pylos, the production and distribution of many fine wares such as kylikes were centralized at the palace and presumably controlled by the palatial administrators, but the production of many other ceramic wares was decentralized and likely occurred within workshop contexts (Galaty 2010; see also Galaty, this vol., Ch. 3). At Mycenae, by contrast, sites such as Petsas House document a wide variety of wares produced by attached specialists that were circulated throughout the Aegean and the eastern Mediterranean (Shelton 2010).

We suggest these differences in economic organization existed because the state centered at Mycenae had developed within a context of intense

peer-polity interaction (Renfrew and Cherry, eds., 1986) that encouraged more intensive cannibalization of crafts by the palatial administrators, who constantly needed to provide incentives to prospective secondary and tertiary elites. These incentives came in the form of exotic goods acquired via long-distance exchange, but also in the form of artifacts produced by attached craft specialists. This intense peer-polity relationship between Mycenae and other sites in the Argolid resulted ultimately not only in more substantial architecture at Mycenaean sites in the region, especially when compared to Messenia (Darcque 2005), but also in the relocation of more, and a wider variety of, attached workshops to the palaces in that region, and especially at Mycenae itself (Voutsaki 2010). This situation differs considerably from that in Messenia, where there was considerably less peer-polity interaction within the region during the emergence of the palace on the Ano Englianos ridge (Davis et al. 1997; Bennet 2007). As a result, the two palatial systems developed political and economic systems that were considerably different from each other.

The Organization of Craft Production: Dimensions of Specialization

The relationship between specialized craft production and early states has been a topic of long-standing interest within anthropological archaeology (e.g., Clark 1986, 1987, 2003; Brumfiel and Earle, eds., 1987; Clark and Parry 1990; Costin 1991). In the Aegean, the relationship between specialized economic processes and the role of primary centers as managerial redistributive loci were critical in Colin Renfrew's (1972) pioneering model of state formation. The study of Mycenaean states on the Greek mainland historically has tended to emphasize the role of the palaces as centers of redistribution for staple goods and specialized craft products that were produced by a top-down administrative system that wielded extensive control over many aspects of the economic system (Galaty and Parkinson 2007b; Parkinson and Galaty 2007; Pullen 2010). This perspective derived, in large part, from a historical reliance upon the information contained within the Linear B tablets, which documents the flow of goods into and out of the palaces (Galaty and Parkinson 2007a). More recently, many scholars have tried to use archaeological information from survey and excavations, in addition to the textual information, to define more precisely those aspects of the economy that the palaces in different regions attempted to control and how effectively they did so. The new picture that is emerging indicates a wide amount of variation in the organization of the political economies of different Mycenaean polities (Wright 2010; see also Alcock and Cherry, eds., 2004). But despite this regional variability, most Mycenaean palatial economies now seem significantly less invasive and redistributive than they did previously. Whereas Mycenaean palaces previously were portrayed as controlling their regional economies in a top-down fashion, they now are thought to have been more volatile, fragile, and substantially dependent upon the successful functioning of independent industries and the regional domestic economy for their survival (Pullen 2010).

Despite the importance of craft production for modeling the differential emergence of complex polities during the Greek Bronze Age, few studies have systematically compared how different industries were organized in different regions over time. The lack of comparative studies is especially striking given the variability that existed not only between different polities on the Bronze Age Greek mainland, but also between the mainland and Crete, where the specialized production of some crafts, including ceramics and metals, was decentralized and only gradually became centralized at emergent centers (Day, Relaki, and Todaro 2010). Here we focus upon the context of production of ceramic and chipped stone industries on the Greek mainland throughout the Bronze Age, and specifically on the differential organization of these crafts in Messenia and the Argolid.

Building upon a long tradition in anthropological archaeology that focused on the relationship between craft specialization and political complexity, Costin (1991) established a framework for modeling the organization of production along four dimensions: context, concentration, scale, and intensity. By measuring the organization of production along

these parameters, it is possible to identify the extent to which crafts were specialized and how they related to other aspects of the political economy. Costin envisioned all these parameters as occurring along spectra (Costin 1991, 8–9, fig. 1.4). In her framework, the term *context* refers to the nature of control over production and distribution; in other words, the degree of elite sponsorship, ranging from independent to attached. *Concentration* refers to the organization of production at the regional scale, from dispersed to nucleated. *Scale* refers to the scale of the production units themselves and takes into account their size and constitution, from small and kin-based to industrial (i.e., factories). The *intensity of production* refers to the degree to which production is a part-time or full-time activity for the artisans. Costin's basic framework has evolved over time, and some, such as Perlès (1992), have modified and adapted the structure to deal with specific regions; it nevertheless remains a useful generalizing framework for comparing the organization of crafts within these regions.

Obsidian Production on the Greek Mainland

The use of obsidian derived from the sources on the island of Melos is documented as early as the Paleolithic at sites such as Franchthi Cave (Torrence 1986; Perlès 1990a). During the Neolithic period and throughout the Bronze Age, two traditions of chipped-stone production and distribution emerged on the Greek mainland: one centered around the more expedient production of flakes made on obsidian and local cherts and the other around the more skilled production of blades and bladelets on obsidian and other exotic raw materials. Catherine Perlès (1990b, 1992) has argued that the organization of obsidian blade production shifted from a relatively uniform pattern of specialized production in the Early Neolithic (EN) and Middle Neolithic (MN) periods—one that was carried out on-site, perhaps by itinerant craftsmen who had direct access to the raw material sources on Melos—to a more variable pattern during the Late Neolithic and Final Neolithic (FN) periods, when raw materials were acquired directly by inhabitants of different villages and blades were produced by specialists on-site (see also Perlès 2001, 201–226).

During the Bronze Age, the production of obsidian blades and bladelets in several parts of the Greek mainland became a regionally organized activity that occurred only at specific sites, usually near the coast (Parkinson 2007). By contrast, obsidian and chert flakes were produced at several locations. This pattern, which emerged in different periods on the Greek mainland from the FN period through the Early Bronze Age, persisted throughout the later Bronze Age, even when the relative distance of each individual region from the obsidian sources on Melos is taken into account (see Cherry and Parkinson 2003; Parkinson and Cherry 2010). In contrast to the organization of production of blades and bladelets in the EN and MN periods, which Perlès (1992; 2001, 200–226) attributed to on-site blade production by itinerant craftsmen, during later prehistoric periods on the southern Greek mainland blade production occurred only at specific sites within regions.

Usually, but not always, these sites were located on or near the coast. Most importantly, once these patterns of organization had been established in a region, they persisted even after the emergence of Mycenaean palatial systems that came to wield strong influence over many parts of the Greek mainland.

Chipped stone is not mentioned in the Linear B tablets, and the production and distribution of chipped stone artifacts seems to have occurred beyond the scope of palatial control. Parkinson (2007) has argued this is because the members of the palatial elite were interested in controlling only some aspects of the political economy: specifically, those that related to high-value items that circulated within the prestige sphere. Chipped stone artifacts, and even very fine pressure-flaked blades and bladelets that required a considerable amount of specialized skill to produce, were a mundane, primarily utilitarian, commodity that had been critical to the functioning of regional political economies for thousands of years before the establishment of centralized economic structures in different regions (Parkinson 2010). As a result, when palatial centers began to emerge in different parts of the Greek mainland, they established themselves

within specific political and economic niches, and developed alongside existing economic structures.

In Costin's (1991) terms, the organization of obsidian blade production in many parts of the Greek mainland during the later Neolithic period and throughout the Bronze Age was for the most part independent (*context*), nucleated at specific sites within regions (*concentration*), probably kin-based (*scale*), and most likely a part-time activity (*intensity*). The exception to this pattern is Early Helladic (EH) and Middle Helladic (MH) Lerna, where Runnels (1985) and others (Hartenberger and Runnels 2001) have argued that obsidian blade production was most likely a part-time, attached, specialization associated with emergent elite at the site. By the Late Helladic (LH) period, however, the organization of obsidian blade production once again became an independent, skilled, craft that occurred alongside the development of centralized political and economic structures.

Ceramic Production on the Greek Mainland

The organization of ceramic production underwent a substantially different pathway of development during the Bronze Age. As with obsidian, the production of ceramic artifacts had been central to the mainland political economy for several thousand years before the Bronze Age. Similarly, the organization of ceramic production seems to have occurred at the household or village level throughout most of the Neolithic period and perhaps into the Early Bronze Age (Perlès and Vitelli 1999).

Even during the Early Bronze Age, there is little evidence for specialized ceramic production. The same roller-seal design applied to large, and presumably nonmovable, items such as pithoi at Zygouries, Lerna, and Tiryns and a terracotta hearth at Tiryns, suggests an itinerant craftsman who traveled from place to place, rather than an attached specialist (Wiencke 1970, 103, 105). The few sets of pots deliberately manufactured for the purpose of use in consumption can be identified, but even those are limited in number. At Tsoungiza, one assemblage contained six vessels, four of which (a basin, a ladle, and two small bowls for drinking or eating) were solidly painted and apparently made by the same hand. Yet another assemblage of 16 drinking vessels had a wide variety of shapes and surface treatments, suggesting an accumulation of the products of several hands. Martha Wiencke (2000, 235–236) has identified at least three groups of small drinking bowls, with 15, 10, and 13 vessels, respectively, which were each made by a single hand and stored in the small Room XI of the House of the Tiles, along with at least 26 small drinking bowls that were produced by different hands. All of these vessels can be associated with feasting activities that took place in and around the House of the Tiles (Pullen 2011). Current petrographic and scanning electron microscopy (SEM) analyses being conducted by Clare Burke (University of Sheffield) suggest that there were a large number of ceramic production traditions supplying ceramics to Early Bronze Age Tsoungiza. While there is a correlation between some vessel forms and some fabrics (e.g., EH I fruitstands), overall the preliminary results indicate "that potters were able to utilize and work with the same raw materials for a variety of wares and forms" during the entire Early Bronze Age (Burke, Day, and Pullen 2011).

During the later Bronze Age, there was a dramatic amount of variation in the organization of production across the Greek mainland (Galaty 2010; see also this vol., Ch. 3). By the LH period in regions such as Messenia, only some specific ceramic types, especially kylikes, were produced by attached specialists with workshops at the Palace of Nestor (Galaty 1999). This pattern contrasts strongly with the later Bronze Age pattern in the Argolid and Berbati. Kim Shelton (2010) has documented an extensive workshop at Petsas house, which she contends was in the process of being integrated into the palatial economy of Mycenae during LH IIIA. Similarly, Åke Åkerström (1968) has described the Mastos workshop in the Berbati Valley, which was used through LH IIIB. Both of these workshops are associated with the Mycenae-Berbati instrumental neutron activation analysis (INAA) chemical group and shared a common clay source (Hein, Beier, and Mommsen 2002),

and likely were attached (physically or figuratively) to the palatial center at Mycenae.

In contrast to the organization of obsidian blade production, which was decentralized, independent, part-time, and occurred beyond the scope of palatial control, the organization of the production of some ceramics at Pylos and Mycenae occurred within specific workshops, was a full-time activity, and was attached—figuratively and physically—to the palatial economy. Whereas members of the palatial elite were not interested in controlling the production and distribution of obsidian blades, they were interested in controlling the production of some ceramics.

We suggest this variation in organization occurred because the palatial administrators chose to focus their efforts and limited resources on attempting to control only those aspects of the political economy that supported their rule. In this regard, the role of ceramics in the economy was critical, but obsidian blades were not. This is because ceramics were circulated in social and political venues where political roles were conspicuously demonstrated (see Galaty 2010; Shelton 2010; see also this vol., Ch. 2). As a result, the Messenian elite sought to control the production of kylikes, ceramic vessels that were used during feasts that were funded and organized by the palatial elite. In Late Bronze Age Messenia, kylikes were critical props in negotiating and demonstrating social alliances and hierarchies. Given the prestige-based nature of the Pylian economy (Galaty and Parkinson 2007b), where participation in the state system was encouraged through gift giving and alliance formation that was played out at feasts and other ritual and social gatherings (Nakassis 2010), it made sense for the emergent palatial elite to invest heavily in trying to control the production of kylikes.

Although the scale and organization of specialized ceramic production were similar in Mycenae and Pylos, the distribution and consumption of the specialized ceramics produced in these regions differed significantly. Galaty (2010) has noted that ceramic vessels, especially pictorial kraters and stirrup jars that were made with clay from the Mycenae-Berbati group in Argolid workshops, are found throughout the eastern Mediterranean. By contrast, pictorial kraters were not produced in Messenia, and Messenian stirrup jars are only rarely found outside Messenia. The palatial administrators at Mycenae were focused on export consumption of particular vessels, not local consumption, while those in Messenia were focused on local consumption.

In Costin's terms, the organization of specialized ceramic production was more heavily sponsored (*context*), more nucleated (*concentration*), occurred on a greater *scale*, and was more *intensive* in the Argolid than in Messenia. These differences in the distribution and consumption of specialized ceramics are indicative of important differences in the organization of the political economies in both regions. Whereas the Pylian state formed relatively quickly—perhaps over only a few generations—and in relative isolation (i.e., with very few competitors; see Shelmerdine 2001; Bennet 2007), the polity centered at Mycenae witnessed a more gradual emergence that occurred in the context of competition between emergent elites from several competing centers (Parkinson 2010; Voutsaki 2010). As a result of this peer-polity interaction (Renfrew and Cherry, eds., 1986), there was increased urgency for the elite at Mycenae to control not only those aspects of specialized production that related to internal systems of alliance formation and status negotiation, but also those that articulated with external systems of exchange.

Conclusion: Craft Production and Palatial Economies on the Greek Mainland

As Cynthia Shelmerdine (1985) demonstrated through her pioneering study of the perfumed oil industry at the Palace of Nestor, the production and circulation of specialized crafts was a critical component within the regional political economy of Mycenaean states. As such, the various ways in which different specialized crafts were incorporated into the palatial economies of different regions on the Greek mainland are indicative of the historical context within which the different palatial systems emerged (Parkinson and Galaty 2007). Here, we examined how the specialized production

of obsidian blades and ceramics occurred over the long term within the Mycenaean states centered at Mycenae and at Pylos.

Since Mycenaean palatial systems were focused on the circulation of prestige goods within a political economy that was primarily wealth financed, there was little interest in controlling the specialized production and distribution of obsidian blades, since it related to a noncritical sector of the regional economy that was essentially mundane. Obsidian blades had been produced, probably by specialists, for thousands of years, and systems of organized production and distribution had been in place in both regions long before the emergence of the palatial systems. This, presumably, was also the case with some other specialized craft activities, including metalworking and textile production (Schon 2007). But unlike those activities, which played critical roles in the palatial system and were therefore either monitored closely in the Linear B tablets or were centralized at the palace, obsidian blade production continued to occur independently. Instead of being co-opted by the palatial elite, these mundane industries persisted alongside the development of the palatial system.

Ceramics were different. Most ceramics that also were mundane and utilitarian continued to be produced domestically or by specialists who operated independently of palatial control. In the case of the Pylian state, which emerged relatively quickly and in relative isolation, the palatial elite exercised control over the specialized production of some specific ceramic types, especially kylikes, which were critical for negotiating alliances and status. On the Argive Plain, there was much more intrusion into the control of ceramic production by the palatial elite.

This control of specialized crafts is reflected in other products as well, including gold, ivory, exotic stone, glass, and bronze artifacts. Voutsaki (2010) recently summarized the distribution of workshops at Mycenae, Tiryns, and Midea, and noted that although Mycenae dominated the production of many of these prestige items, the production of some specific items also occurred at the other centers. Similarly, Bryan Burns (1999, 2010) and William Parkinson (2010) have noted that many of the centers in the region received imported—or "foreign"—objects that originated beyond the Aegean, indicating competition for the control of access to—as well as the production of—items that circulated within the wealth-financed sector of the economies to encourage participation and alliance building within and between the competing palatial centers.

The Palace of Nestor in Messenia emerged in a less densely inhabited environment, with fewer significant competitors. John Bennet (2007) noted that the Pylos Regional Archaeological Project documented only two settlements near the Palace of Nestor that rivaled it in size during the MH and early LH periods: Beylerbey (I1) and Ordines (K1). Both these sites were quickly surpassed in size by the Palace of Nestor, which by LH II became the sole paramount center in the region. This environment was significantly different from that of the Argolid, where sites such as Lerna, Asine, Tiryns, Argos, Prosymna, and Midea all posed significant threats to Mycenae during its emergence to regional prominence.

Craft specialization on the Greek mainland during the Bronze Age emerged along different pathways in different regions. As palatial centers in these different regions began to exert their influence over their hinterlands, they did so in ways that were influenced by their social and historical regional contexts. Although it was proposed primarily to explain similarities between autonomous sociopolitical units within a culturally homogeneous region, the concept of peer-polity interaction (Renfrew and Cherry, eds., 1986) also helps explain the dramatic variability exhibited between different polities. In dual-processual terms (Blanton et al. 1996), the intensive interaction in the Argolid gave way to a more network-based organization, whereas the relative isolation of the Pylian state led to a more corporately organized system. With regard the relationship between craft specialization and emergent Mycenaean political economies, the densely inhabited Argive Plain encouraged competition to control the production and acquisition of a wide variety of highly valued prestige items that were critical in cultivating participation and alliance building. One form this took was the production and distribution for export of specialized ceramic vessels. As a result, the administrators at palatial centers in that region sought to control more aspects of the local political economy than did their contemporaries in Messenia, who focused their efforts almost exclusively on controlling only a few specialized items, such as perfume.

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CHAPTER

7

Pylos Tablet Vn 130 and the Pylos Perfume Industry

Thomas G. Palaima

There is no foolproof method for interpreting Linear B texts.* In the early days of Mycenaean studies, of course, there was the famous split between what Leonard Palmer claimed was his "combinatory" or "structural" method and the "lexical" method of John Chadwick, a lexicographer by training and temperament. Palmer claimed that he took special care to understand the significance of the position in which a particular lexical item occurs within the layout of a text before proposing any interpretation of it, while those who adhered to the "lexical" method relied too much on the etymology of a specific term in proceeding to interpret it and the text or texts in which it occurred (Palmer 1963, 27–36). In point of fact, however, like all but the simplest dichotomies, this contrast of methods of interpretation in Mycenology is false, or at least misleading.

When we study the texts of the Linear B tablets, some things are close to "givens." Take, for example, a phrase like *wa-na-ka-te-ro te-me-no* (*wanakteron temenos*) on Pylos tablet Er 312. It

*Cynthia Shelmerdine has, throughout her long and fruitful career, been masterful at making uncommonly good sense of Mycenaean texts by using combinatory interpretive methods that rely on her understanding of the archaeological contexts of tablets and the tablet-writing systems in which they were produced; the work of individual tablet writers and their relationships to one another; specific economic, religious, political, or administrative spheres; the historical and archaeological environments of particular sites and regions and their populations; and the conditions that were generally prevailing in the Mycenaean world when particular tablet records were written and in use.

I thank Dimitri Nakassis for discussing Vn 130 with me at the start of my studying it. I thank José Melena for his characteristically exemplary generosity in sharing his forthcoming chapter on Mycenaean writing with me, as it has moved through different stages of development. I thank the editors of this volume for their kind patience.

has prominence as the initial entry in the opening section of the tablet. It is intentionally paired in the textual layout with an entry for the *ra-wa-ke-si-jo te-me-no* (*lāwāgesion temenos*). The interpretation of the *wa-na-ka-* root of *wa-na-ka-te-ro* is uncontestable. Its binary contrastive adjectival suffix *-te-ro* is also clear. And the contrast with the other major power figure of the palatial territory in Messenia, the *lāwāgetās*, who here also is recorded as having a *temenos*, is likewise clear. The term *temenos* survives, and has a clear meaning, in the historical Greek lexicon.

In "reading" Er 312, then, etymology, morphology, context, the study of another text that belongs together with it, and grasp of scribal intention within the text of Er 312 all work in harmony. Still, modern scholars might be hard-pressed to figure out, even in this simple example, how "lexical" and "structural-contextual" interpretations interact, which one goes first, and which one has the most important role in establishing a sound reading of the text. The interpretation of Mycenaean Greek texts is an art, not a science. But since science is also an art, we should not be too troubled.

We have to make a real effort, almost 60 years after the decipherment of Linear B, to see where our methods of interpretation have yielded less than certain results and where they have failed us. We are also at a disadvantage because the Linear B texts depended at the time they were written on the intimate understanding of their contexts that the Mycenaean tablet writers themselves possessed.

It is clear in studying the tablets within their archaeological contexts and record-keeping and record-producing environments that the individuals who would later be consulting the texts would have been the authors of the texts themselves and other tablet writers working in the same or related fields of information and administration (Palaima 2003, 2011). Thus the texts can be, and often are, frustratingly minimalist from our points of view, leaving us to rely on our wits and to use what have come to be accepted as standard operating procedures.

I offer here some observations on the text of Pylos tablet Vn 130 (Fig. 7.1) with the aim of explicating the relationship between the palatial center at Pylos and the places and individuals who are recorded in its text.

Vn 130

.1	o-ze-to , ke-sa-do-ro , ai-to-pi ,	
.2a	pa-ro	
.2b	a-ke-a_2 , me-ta-pa , pe-ri-te	1
.3	a-pi-no-e-wi-jo , pa-ro , e-ru-si-jo	1
.4	a-pi-no-e-wi-jo , pa-ro , a_3-ki-e-we	4
.5	e-na-po-ro , pa-ro , wa-do-me-no	9
.6	sa-ri-no-te , pa-ro , o-wo-to	5
.7	pa-ki-ja-si , pa-ro , a-ta-no-re	4
.8	ka-ra-do-ro , pa-ro , to-ro-wo	1
.9	pa-ki-ja-si , pa-ro , e-ri-we-ro	3
.10	e-wi-te-wi-jo , pa-ro , wi-sa-to	1
.11	]ṃe-te-to , pa-ro , ko-do 3	
.12	ro-]u-so 24	
.13	]me-te-to , pa-ro , e-u-qo-ne	3

That PY Vn 130 is a tablet that merits and is in need of further study is proved by the following considerations:

1. Vn 130 is among the tablets discovered at Pylos in the first season of excavation;
2. it is a complete 13-line text with no problematically doubtful readings—the place name *ro-]u-so* is an incontestable restoration in line 12, and the toponym *me-te-to* is read without any forced conjecture and with sufficient attestation in other suitable contexts;
3. it is written by the main or "master scribe" at the site of Pylos, Hand 1;
4. it contains in its entries four of the nine major districts into which the Hither Province of Pylos is divided (*me-ta-pa*, *pa-ki-ja-ne*, *ka-ra-do-ro*, and *ro-u-so*, the last two reversed in terms of canonical order) alongside other place names that occur in other tablets;
5. it lists seven personal names that recur on other Pylos tablets;
6. it has a heading with the formulaic syntactical structure: *o-* | VERB | PERSONAL or OCCUPATIONAL NAME comparable to other important texts introduced by *o-* or *jo-* (PY Eq 213, Pn 30, Ta 711, Un 267, Vn 10, Wa 917);
7. it has a clear connection, both in scribal hand and in a verbal form in the heading, with

Pylos tablet Un 267 (the future participle *ze-so-me-no* Un 267.4 and the finite verb form *o-ze-to* Vn 130.1; both tablets are by "master tablet writer" Hand 1); and

8. it is in the small class of tablets that do not use ideograms (except, of course, numerical ideograms).

Still, the tablet is not treated in either edition of *Documents in Mycenaean Greek* (Ventris and Chadwick 1956, 1973) or in recent handbook-style collections (Bernabé and Luján 2006; Duhoux and Morpurgo Davies, eds., 2008). Nor are the text and its contents treated in comprehensive studies of Mycenaean forms and texts (Ruijgh 1967; Hiller and Panagl 1976). Moreover, despite the rather clear potential correlation between its introductory verbal form *ze-to* and the forms *ze-so-me-no* and *a-re-pa-zo-o* used in the text Un 267, which provides the most explicit evidence for the practice of perfume manufacture (Shelmerdine 1985, 17), Vn 130 is not taken up in Shelmerdine (1985) or in the latest comprehensive study of textual documentation for perfumed oils, their manufacture, distribution, and use in Mycenaean and other contemporary Anatolian and Near Eastern cultures (Fappas 2010).

Where Vn 130 does appear in discussions, it is treated only in part and for the specific point(s) these discussions are making. This way of working with the Linear B texts has many hazards. When following selective chains of reasoning, there is a danger of projecting onto a "supporting text" the very fact(s) that we need to argue for our points of view. Also a conjecture about part of a text may seem plausible only so long as we focus on a small part of it and do not look at all the interconnections with other documents that the rest of the text has. The partial interpretations of Vn 130 also make clear the danger of wishing a sign group to mean something that it must mean in order to arrive at an attractive interpretation.

The fullest discussion of Vn 130, other than its spare treatment in Palmer (1963, 369–370), is found in Galaty's work on pots and the Mycenaean palaces (Galaty 1999, 51). There, following Morris (1986, 102), Galaty (1999, 51) interprets the opening of Vn 130 selectively as follows:

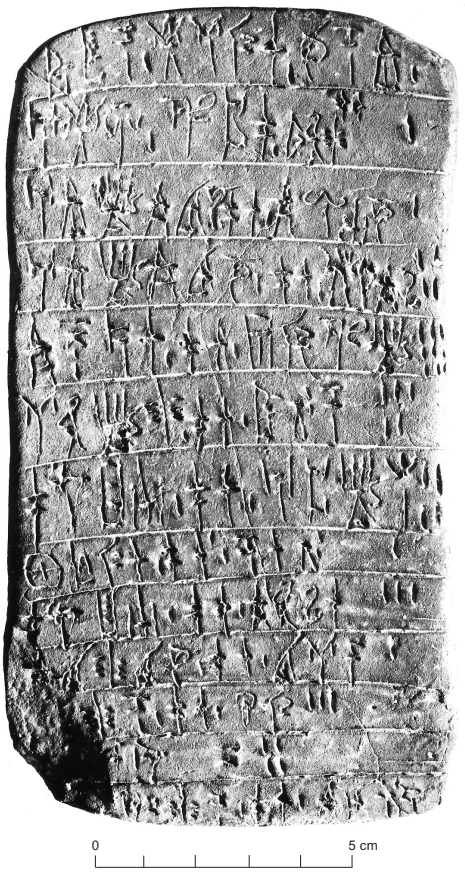

Figure 7.1. Photograph of Pylos tablet Vn 130 *recto*. Archives of the Program in Aegean Scripts and Prehistory at the University of Texas at Austin. Courtesy Department of Classics, University of Cincinnati.

.1 o-ze-to , ke-sa-do-ro , *34-to-pi ,
.2a pa-ro
.2b a-ke-a [*sic*]

Galaty (1999, 51) also states "[A]s with most Linear B inscriptions, it is far from clear exactly what lines 1 and 2 mean, but the most plausible translation is, 'And so Kessandros took (or received) containers with strainers.'"

First, it is not true that the meanings of the first two lines of most Linear B inscriptions are unclear. This is a rhetorical comment designed to predispose us to accept whatever interpretation is being advanced. It implies that, if interpretation is so difficult that demonstrable proof is far beyond our grasp, we should be grateful for what we can figure out and one line of reasoning may be as

good as another. We are also not told on what basis we should be willing to accept this translation as "most plausible." The supralinear word *pa-ro* in line 2a is here detached from the personal name that it governs, thus giving a false impression that it is part of the introductory heading formula.

I should stress that we who are Linear B specialists are responsible for the shortcomings here. We have left a fine scholar of material culture like Galaty to chart his own course on forbidding Mycenological seas without a compass or sextant. Given the state of our and his understanding of Vn 130, Galaty considers what kinds of containers the plural *aggeha* (*a-ke-a*$_2$) in line 2 are likely to be and how they are to be used in connection with the term for which one early interpretation was "strainers": **34-to-pi*.

Galaty posits that the *aggeha* are ceramic cooking pots that could have been used with strainers in perfume manufacture (cf. Chadwick and Baumbach 1963, 166; Palmer 1963, 370; Ventris and Chadwick 1973, 529; Chantraine 2009, 8). Following Morris (1986, 102), he interprets the individuals listed in the *pa-ro* formula in lines 2–13 of the tablet as "regional heads of potting workshops" from whom *Kessandros*, using an inefficient system (at least in so far as assembling a requisite number of pots is concerned), collected the pots either as a kind of tithe or as fulfillment of contracts.

Before commenting on this interpretation, we should keep in mind that, when we examine what looks like inefficient operations within the Mycenaean administrative systems attested in our tablets, "efficiency" per se was not the only motive for organizing production, delivery, and distribution. Historical relationships among communities and social groups, politically sensitive interconnections among people holding economic, political, and social power, efforts at building social and political harmony, the dictates of ritual and religious practice, and exigencies of the moment all came into play.

Galaty's line of interpretation, however, depends on two hypotheses that have now been rejected: first, that sign **34* might have the value *ru*$_2$, and second, that *o-ze-to* could be interpreted as a "verbal form, probably meaning 'received' or similar" (Ventris and Chadwick 1973, 593). Palmer (1963, 370) suggested that *ze-to* meant "got" (γέντο) or "lies in store" (κεῖτοι), but both interpretations are unacceptable because the Mycenaean *z*-series of phonograms does not represent a simple palatal stop (see also Chantraine 2009, 206–207). Still, delinked from the proposed forms, Palmer's hypothesis gave rise to the notion that whatever the Linear B sign group *o-ze-to* represented, it had to mean something like "received." In retrospect, there is no basis for making this claim.

The first theory was posited so that the form **34-to-pi*, taken in isolation, might be an instrumental or comitative plural from a nominative singular λύτωρ ("loosener, sifter, strainer") and mean something like "by means of strainers" or simply "with strainers." A look at the entire dossier of occurrences now indicates that this *ad hoc* conjecture is impossible. Sign **34* most likely represents *ai* (Melena 2001, 15; Bernabé and Luján 2006, 30–31). Yet even taken at face value, it is hard to see in what sense the instrumental could function here if one were interpreting *o-ze-to*, *ke-sa-do-ro*, **34-to-pi*, *a-ke-a*$_2$ with *o-ze-to* concealing an unknown verb meaning "received" *vel sim*. The comitative function of **34-to-pi* makes better sense: "together with **34-to* (plural)." The second theory (Palmer 1963, 370), as we have mentioned, has had its original basis (the identification of the verbal form *ze-to* in Vn 130.1 as γέντο "got" or κεῖτοι "lies in store") removed. The argument now runs, "We do not know what the verb here is or what its meaning is. But if it means something like 'received,' as was once proposed, we can construct an interpretation of the text." This approach eschews any attempt at arguing for an "etymological" meaning—in fact it relies on the afterlife of discarded etymologies—and claims plausibility because heading phrases structured like the heading phrase in Vn 130 contain basic transactional vocabulary for the actions of "giving" (Jn 829, Un 267, Vn 10), "seeing/inspecting" (Ta 711, Eq 213), "distributing" (Vn 20, Wa 917), "sending" (Cn 3), and "receiving" (Pn 30). We should note that in one text, the heading verb refers to activities undertaken and thus acknowledged as a service performance for the palatial administration: Cn 608 (*jo-a-se-so-si* meaning "thus they will fatten" *vel sim.*). I propose here that Vn 130 (*o-ze-to*) provides another example (for heading formulae, see Hooker 1968; Babič 1997, 246–248; Palaima 2000).

As José Melena (forthcoming) argues, it is impossible to understand what **34-to-pi* might mean without understanding what the most important word in the heading phrase is, namely, the main

verb *ze-to*. Indeed, it is a basic rule of interpreting lexical items within the texts of Linear B tablets, and indeed in other kinds of inscriptions, to look to see whether there are any related forms in other texts of the same kind. We should always first seek a *comparandum*. This was not done, as we have seen, in the case of Vn 130. Aura Jorro (1993, 458) cites a number of conjectures and the fact that Chadwick and Baumbach (1963) and Hooker (1968) can be consulted "para su consideración como forma verbal simplemente." Those two sources were displaying admirable caution. But the meanings behind Palmer's untenable forms (γέντο and κεῖτοι) have problematically taken hold in virtually all treatments of Vn 130 as defining the semantic field for the verb and thereby determining the kind of record Vn 130 is.

The surprising fact is that for *ze-to* on Vn 130.1 there is a clear *comparandum* that has lots of secondary support. On PY Un 267, we find the term *ze-so-me-no*, the future participle form from the verb whose later form is ζέω "seethe, boil." (There is also a compound noun with an *o*-grade form of this root in its second element: *a-re-pa-zo-o*.) On Vn 130.1, then, we should attempt to reason first from what is known. The verb form *ze-to*, in Melena's (forthcoming) view, is either (1) aorist *ō*(*s*) *dzesto* (for the type of aorist, compare εὖκτο, δέκτο, and γέντο) "thus he boiled, seethed," or (2) athematic present *ō*(*s*) *dzestoi* "thus he is boiling, seething."

The secondary support for this identification is strong. What we are positing as a related form *ze-so-me-no* occurs on Pylos tablet Un 267 (the famous text where a person named *a-ko-so-ta* "gave" incense materials to Thyestes the unguent boiler so that they might be "boiled"). It is a tablet of the same dimensions and shape as Vn 130. Most significantly, both Vn 130 and Un 267 are written by the same tablet writer, Hand 1, the so-called master scribe at Pylos. Both of these page-shaped tablets even have, rather uncannily, erasures and resettings of the final lines of their texts.

The other line of interpretation proposed for Vn 130 has been advanced by Bendall (2007, 243–244), based on observations of Killen (1999, 89). Killen accepts that the individuals on Vn 130 are "apparently supplying *a-ke-a*$_2$." This, however, is far from apparent. In fact, in cases of contributions being made in the interests of and recorded by the palatial center, the names of the parties who are giving goods or materials are usually in the nominative (e.g., Jn 829, Vn 10), as are the place names (whether as true nominatives or rubric nominatives). Here, however, the responsible individuals are listed in the dative after *pa-ro*, and the place names that are unambiguous in form (*pa-ki-ja-si* and *sa-ri-no-te*) are in the dative/locative. We should infer that the other place names are also in the same case and that the tablet is recording activities taking place *in* these localities, not accepting contributions *from* them.

The main reason to posit that the individuals here listed in the *pa-ro* formula are supplying *aggeha* is because Killen follows the work of Ventris and Chadwick (1973) , which follows Palmer's (1963) now insupportable assumption that the opening heading phrase must have to do with collection. The tenuous logic does not stop there. Because the name of one (*a*$_3$*-ki-e-u*) of the 11 individuals on Vn 130 is also recorded on Pylos tablet Jn 605 (a text having to do with the allotment of bronze and reckoning of bronze workers) as an owner of two *do-e-ro* ("slaves") at the same site (*a-pi-no-e-wi-jo*) as on Vn 130, Killen proposes that the *aggeha* on Vn 130 are made of bronze (see, too, Palmer 1963, 370).

Indeed, there is no indication in Vn 130 as to what material the vases are made of. Yet to single out one individual in the text and use an entry in another text recording the part-time involvement of this individual's slaves in bronze working as a determining factor is problematic. Many of the names of Vn 130 are *hapax*. But those that are not *hapax* are found in other texts dealing with a wide variety of activities. They occur in tablets An 261 (as a member of a "council of elders" or *ke-ro-si-ja*), Fn 50.3 (as head of a "council of *qa-si-re-we* or headed by a *qa-si-re-u*" or *qa-si-re-wi-ja*), Cn 328 (in a herding context), and in the Ea series (as a *poimēn* "shepherd" who holds different plots of land in the district dominated by interests of the *lāwāgetās*).

Killen (2006, 81–83) later gives a fuller discussion of Vn 130. He once more asserts that Vn 130 "lists the collection (?) of perhaps *angeha* 'jars, pails', from various places and individuals." A second interconnection links *a-ta-no-re* (dative after *pa-ro* on Vn 130.7) with an entry of the same name on tablet Fn 50, where *a-ta-no-ro* (genitive) is the head of a *qa-si-we-ri-ja*. Killen argues from textual occurrences that the *qa-si-re-we* in the texts are attested in the subject areas of "bronze" and "furniture." The

association with bronze induces him to interpret all the *aggeha* here as made of bronze.

The *qa-si-re-we* are local "big men" who function at the village level and get drawn into economic and other activities in the palatial records rather unsystematically, when a particular *qa-si-re-u* can assist the palace and undoubtedly derive some benefit from what looks like almost ad hoc service (Palaima 2006, 68–69). Insofar as the connection with bronze working and bronze workers is concerned, the late Pierre Carlier, the specialist who devoted his career to understanding terms for kingship in Greek prehistory and history, established that "[l]a rareté relative des *qa-si-re-we* dans la série Jn incite à penser que leur lien avec les forgerons est *occasionnel*" (Carlier 1995, 356). The same reasoning applies to their connections with furniture manufacture. There is no need to limit the spheres, duties, and activities in which the *qa-si-re-we* are involved to the two that are haphazardly attested. This would be to revert to the thinking in the early years of Mycenaean studies when the *qa-si-re-u* was viewed as a "local guild leader" for bronzesmiths, no more, no less. We now know better.

Let us then interpret Vn 130 keeping the contents of tablet Un 267 in mind. We follow Melena (forthcoming) in interpreting *ai-to-pi* as an instrumental or comitative plural form in *-phi* from a noun αἶθος or an agent noun in *-tēr* or *-tōr* from the same stem, in this instance and at this period meaning something like "fire log" (Beekes 2010, 36–37: *s.* αἰθήρ and αἴθω - αἶθος, compares Sanskrit *édha-* "firewood"; the Indo-European root h_2eid^h- means "kindle"). Our reading would be as follows:

Vn 130

.1 Thus Kessandros has boiled/is boiling with fire logs

.2a *uco*

.2b vessels at *me-ta-pa*$^{\text{MD-HP}}$, *Perins* $^{\text{hap}}$ 1

.3 at *a-pi-no-e-wi-jo* $^{\text{ml-HP}}$, *uco* , *Erussios* $^{\text{hap}}$ 1

.4 at *a-pi-no-e-wi-jo* $^{\text{ml-HP}}$, *uco* , *Aigiheus* 4

.5 at *e-na-po-ro* $^{\text{ml-HP}}$, *uco* , *Wādomenos* $^{\text{hap}}$ 9

.6 at *Salinwons* $^{\text{ml-HP}}$, *uco* , **Owotos* 5

.7 at *Sphagiānes* $^{\text{MD-HP}}$, *uco* , *Antānōr* 4

.8 at *Kharadros* $^{\text{MD-HP}}$, *uco* , *Throwos* 1

.9 at *Sphagiānes* $^{\text{MD-HP}}$, *uco* , *Eriwēros* 3

.10 at *e-wi-te-wi-jo* $^{\text{ml-HP}}$, *uco* , *Wisanthos* 1

.11 at *me*-*te-to* , $^{\text{ml-HP}}$, *uco* , **Koldos* 3

.12 at [*Lo*]*usos* $^{\text{MD-HP}}$ 24

.13 at *me-te-to* , $^{\text{ml-HP}}$, *uco* , **Eug^{w}honis* $^{\text{hap}}$ 3

hap in superscript = *hapax graphomenon* in the Linear B texts from Pylos

MD-HP in superscript = main district, among the nine principal districts in the Hither Province

ml-HP in superscript = a minor locality, located, insofar as we can tell, in the Hither Province

uco = under control, care or authority of; this is the meaning that the locational preverb *paro* has in the Pylos Linear B texts relating to livestock management (e.g., Cn 40, 45, 418, 599), banqueting provisions (e.g., Un 138), and landholding (e.g., Ep 212, Ep 539, Ea and Eb series passim)

All the personal names here given are possible but not secure reconstructions (cf. Nakassis 2013).

My proposed interpretation takes into account the assignment of both tablets Un 267 and Vn 130 to Hand 1 and their similar forms and even their similar formatting adjustments. On Un 267 Hand 1 monitors the "giving" by *a-ko-so-ta* of aromatics, wool, wine, and honey to a perfume boiler. Tablet Un 267 attests to Hand 1's involvement in recording practical details connected with perfume "boiling." The same verb for "boiling" occurs in the heading of tablet Vn 130. The practical concerns of Vn 130 are with the localities where the boiling is (or has) taken place, which individuals are in charge at each location, and what quantities of containers are being used in conjunction with the "fire logs" that are also stipulated in the heading. The provision of vessels and fire logs together is similar to the provision of sacrificial animals and fodder in the Thebes Wu sealings (Wu 46, 56, and 76, translated and discussed in Palaima 2004, 227, 237–238). In both cases, a secondary item is necessary to support the use of the primary items. Tablet Vn 10 and the culling records Va 1323, Va 1324, and Vn 1339 (Palaima 2003, 182–187) indicate that the palatial center at Pylos is concerned with raw wood resources and that the district of *ro-u-so*, which has such a large entry number in Vn 130.12, is a major supplier of raw wood materials (cf. Vn 10 where the *ro-u-si-jo a-ko-ro* supplies 100 *a-ko-so-ne* and 100 *e-pi-*19-ta* to the joining workshop).

The decentralization of perfume-boiling operations should come as no surprise, and for the same reasons that one finds bronze working scattered in small places throughout the palatial territory. It is a way of "sharing the wealth" and the responsibilities (and eventual concomitant rewards) of what are technical operations that rely on rare resources

(respectively aromatics and imported bronze) and are most efficiently placed out near the raw wood supplies.

It should also be noted that Vn 130, in my proposed interpretation, deals exclusively with localities in the Hither Province. Four of these are among the nine principal centers: *me-ta-pa*, *Sphagiānes*, *Kharadros*, and *Lousos*. The first three of these principal centers are listed in canonical order in lines 1–8. The next portion of the tablet has been erased and redrawn by the tablet writer using more narrowly ruled lines in final lines 8–13. We get first in lines 9–13 a repetition of perfume boiling going on in the main district of *Sphagiānes* (see the entry for *pa-ki-ja-si* in line 7). The main district of *Lousos* is then also registered (in line 12) as a center of major production and without any indication of the individuals who are overseeing operations there. This, too, should come as no surprise, if we consider the special status of the *ro-u-si-jo a-ko-ro* and how it functions in tablet Vn 10 and other texts. We might imagine that this entity is a collective controlled by a body of high-status individuals, just as three *telestai* represent the *dāmos* in Pylos Un 718 and Er 312.

On Vn 130, besides the four principal districts, there are five other localities mentioned. It is difficult to resist suggesting that these five are specific places within the five other main districts into which the Hither Province is organized. This would then make Vn 130 a record of the status of unguent-boiling operations under the control of *Kessandros* throughout the Hither Province at the time the text was written. Unlike Un 267, the palatial administration was here on Vn 130 concerned not with the aromatics and other materials that go into perfume boiling (Un 267) but with the containers and the wood supplies that were used to do the actual perfume making.

Tablet Vn 130 can then be seen as a complementary or companion text to Un 267, demonstrating further the concern of the principal tablet writer at the site of Pylos, Hand 1, with the important industry of perfume manufacture. It also suggests a division of areas of interest: *a-ko-so-ta* with perfume ingredients (Un 267) and *ke-sa-do-ro* with vessels and fuel (Vn 130). I do not mean to suggest that these two individuals organized the entire perfume industry according to such a separation of duties. But they are in these two tablets captured, now for over three millennia, as engaged in these operations. Finally, that two individuals identifiable from other tablets as *qa-si-re-we* are mentioned in Vn 130 as involved in seeing to the practical details of perfume making in specific localities is further proof of Carlier's (1995) observation that the central palace called upon local "big men" in an irregular way, when they could assist in particular activities. We may now add "perfume making" to bronze working and furniture making as among these tasks.

This is my scholarly gift to Cynthia Shelmerdine: another text to work into her ideas about the organization of the Mycenaean perfume industry at Pylos, a topic that has engaged her as long as we have known each other. She is, of course, entirely free to reject the interpretations I advance here. But even that should occupy her mind and bring her intellectual pleasure.

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CHAPTER

8

Voicing the Loom: Women, Weaving, and Plotting

Marie-Louise Nosch

Textile production is something of a blind spot on the cultural and economic map of ancient Greece.* Textiles and matters of textile production are often overlooked and neglected in classical scholarship, even though we know that they were a vital part of a producing, consuming, trading, and living society of the past (Forbes 1956). Here I will argue that the making of cloth created a background rhythm of female life in ancient Greece that is both visual and audible if one knows where to see and hear it.

Mycenaean epigraphical scholarship, in contrast to other specializations, has emphasized the study of textile production because more than half of all Linear B tablets deal with textile production in terms of raw resources—flax and wool—and the monitoring of the palaces' textile workers and textile production (Killen 1984). This abundance of documentation has encouraged the view that Mycenaean textile production was purely a matter of industry, however, characterized by standardized production, targets, rations, and textile workers of slave status. We tend to forget that the craft of weaving in most cultures was culturally embedded into cosmological and mythological narratives. This was probably also the case in the Mycenaean period, despite the silence of the tablets in this regard. It should be noted, furthermore, that the rich textile terminology in the Linear B tablets is deeply rooted in a living language and not in terms invented for strictly bureaucratic reasons (Mallory and Adams 2006, 230–238; Del Freo, Nosch, and

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Rougemont 2010). Terms for textiles, tools, techniques, and clothes existed long before the Linear B administration was established, and the terminology continued to undergo semantic shifts, eventually becoming part of the evolving Greek dialects of the first millennium B.C. (Barber 1991).

In Homeric studies textile production has received less attention, presumably due to its secondary importance to the poet. "The Homeric epics are not a reliable guide to the culture and habits of Mycenaean Greeks, but it is sometimes possible to work the other way, and to show from Late Bronze Age data that an object or practice in the *Iliad* or *Odyssey* does accurately reflect that period," writes Cynthia Shelmerdine (1995, 99). Therefore, with our rich Mycenaean data on textile production, it is my aim to work in the opposite direction and show how in the *Iliad* and the *Odyssey* textiles and weaving played a vital role both in society and in epic narrative.

Scholars have long recognized that textiles, textile production, and costumes are described in a rich vocabulary in ancient Greece. In 1967, *Archaeologia Homerica* published an entire volume on *Kleidung, Haar- und Barttracht* by Spyridon Marinatos (1967). Similarly, in *Prehistoric Textiles* (1991), Elizabeth Barber set Aegean costume and textile production into a cultural historical framework of the second and first millennia B.C. For the Classical-period household, the division into a female and a male domain expressed in the opposition between the Greek divinities Hestia and Hermes was the theme of a seminal paper by Jean-Pierre Vernant (1963). Hestia is female, centered in the home, stable, inert, and ancient; Hermes is male, outgoing, dynamic, mobile, and young. Textile production is associated with the domain of Hestia and thus localized in this stable, domestic environment.

However, in the investigation of the pre-classical and classical past, textiles degrade and disappear in Greece, and women remain silent and invisible in the sources. It is therefore possible to concur with Averil Cameron's statement that it "might seem then that for a true understanding of ancient women we must turn to other kinds of material, especially non-literary evidence" (Cameron 1989, 8). I believe that it is necessary to combine several types of sources and methods to understand women and textiles and their significance in ancient societies beyond the Linear B tablets.

"The old and far-from-lively field of scholarship on Greek dress has in recent years been given a new lease of life by the study of clothes as a means of non-verbal communication," writes Hans van Wees (2005, 1). In particular, the German historian Beate Wagner-Hasel has set a new research agenda by reviewing textiles as a gender-specific means of communication and as a means of communication integral to ancient economy and society (Wagner-Hasel 2000, 2006).

In Shelmerdine's 1995 tribute to Emily Townsend Vermeule, she emphasizes the importance of an interdisciplinary approach to the study of the earliest stage of Greek history (Shelmerdine 1995, 99). I will follow her recommendation and her path in this survey of how women, plotting, and textiles are interwoven in language. However, my approach will not be of the precise and methodical kind that is characteristic of Cynthia Shelmerdine's scholarship. Instead I will seize this opportunity to explore a less clear-cut area of research and to zigzag between ages and methods.

Weaving, Sewing, and Plotting

There is a close semantic as well as technological relationship between weaving and narrative (McIntosh Snyder 1981; Wagner-Hasel 2006). The verb *hyphainein* is already employed in two ways in the works of Homer: (1) "to weave"; (2) "to piece together in the mind, contrive, devise, and develop" (Cunliffe 1963, 402; Chantraine 2009, 1123). Martin West even sees this semantic convergence of weaving and composing (poetry) as one of the strongest testimonies of a common Indo-European epic tradition (West 1973, 179; 2007, 35–38). Other scholars have also emphasized the relationship between weaving and composing in Homer's epics (Nagy 2002) and the nexus of language, the female, weaving, and the construction of truth (Bergren 2008).

In the *Iliad*, Andromache (6.456) and Helen (3.125) weave fabrics, as do Calypso (5.62) and

Circe (10.220–223, 226–228, 254–255) in the *Odyssey*. However, the Homeric weaver par excellence is Penelope (*Od*. 2.94, 104; 5.517; 19.149; 24.129–140):

> στησαμένη μέγαν ἱστὸν ἐνὶ μεγάροισιν ὕφαινε
>
> She set up in her halls a great web, and fell to weaving (*Od*. 24.129)

Penelope explains her reasons for weaving to her suitors (*Od*. 24.131–137, see also 19.141–147):

> κοῦροι ἐμοὶ μνηστῆρες, ἐπεὶ θάνε δῖος Ὀδυσσεύς,
> μίμνετ' ἐπειγόμενοι τὸν ἐμὸν γάμον, εἰς ὅ κε φᾶρος
> ἐκτελέσω, μή μοι μεταμώνια νήματ' ὄληται,
> Λαέρτῃ ἥρωϊ ταφήϊον, εἰς ὅτε κέν μιν
> μοῖρ' ὀλοὴ καθέλῃσι τανηλεγέος θανάτοιο,
> μή τίς μοι κατὰ δῆμον Ἀχαιϊάδων νεμεσήσῃ,
> αἴ κεν ἄτερ σπείρου κεῖται πολλὰ κτεατίσσας.
>
> Young men, my suitors, since noble Odysseus is dead, be patient, though eager for my marriage, until I finish this robe—I would not have my spinning go to waste—a shroud for the hero Laertes against the time when the fell fate of pitiless death shall strike him down; for fear any of the Achaean women in the land should cast blame upon me, if he were to lie without a shroud, who had won great possessions.

The verb ὑφαίνω also occurs frequently with the sense to plan, piece together in the mind, contrive, and devise. For example, in the *Iliad* (3.212), Menelaos and Odysseus are described as able orators, weaving their words:

> ἀλλ' ὅτε δὴ μύθους καὶ μήδεα πᾶσιν ὕφαινον
>
> But when they began to weave the web of words and of devices in the presence of all

Another example occurs when King Proetus plots against against Bellerophon (*Il*. 6.187). The use of the verb also in this secondary sense is very common in Homer (*Il*. 3.212, 7.324, 9.93; *Od*. 4.678, 5.356, 9.422, 19.139), both by male and female protagonists.

This usage is common in Greek, as discussed by Rüdiger Schmitt in his analysis of Indo-European poetry and poetic language (Schmitt 1967, 300). Composing songs is expressed as weaving hymns, and this metaphor can also be found in other Indo-European languages, for example in Vedic expressions (Schmitt 1967, 300). Some scholars even suggest that *hymnos* and *hyphaino* have a common origin, although this remains very uncertain (Diehl 1940; Patzer 1952, 322–323; Nagy 2002, 71; West 2007, 37; Chantraine 2009, 1116; Beekes 2010, 1531). West lists as a primary sign of continuity in Indo-European poetry the common use of "weaving" as a metaphor for the poet's craft (West 1973, 179). This is paralleled in modern French, where the verb *tramer* corresponds to *hyphainein*, meaning both "to weave" and "to contrive or plan," *trame* being the French term for weft.

In the dialogue between Odysseus, returned in disguise as a stranger, and his wife, Penelope (*Od*. 19.137), she describes her ruse and how she has cheated the suitors by employing yet another textile expression that is valid in both Greek and English:

> ἐγὼ δὲ δόλους τολυπεύω
>
> And I wind a skein of wiles

The primary sense of τολυπεύω is to wind up either thread or wool bundles prepared for spinning, but its sense of plotting is very common.

The Greeks also employ yet another textile technical term for composing poetry and songs, namely ῥάπτειν, "sewing," from which the verbal agent ῥαψῳδος, "rhapsode," derives. Already in Homer, the verb ῥάπτειν can have the sense of sewing and stitching, as well as devising, contriving, planning, and plotting (Patzer 1952; Cunliffe 1963, 354). Patches of bulls' hides are stitched together inside the shield of Sarpedon (*Il*. 12.296), but in other instances the verb can mean to devise evil and to plot (*Il*. 18.367; *Od*. 3.118, 16.423).

Poems and thoughts are "woven" or "sewn" together to express their meanings, and poetry was primarily expressed through singing in the past. Anthony Tuck has demonstrated how singing and weaving belong together in *mythos*, especially for technical reasons: songs serve as mnemonic devices that would presumably help the weavers remember when to change the shed and where to pass the weft, thus assisting them in executing complex patterns (Tuck 2006).

The technical terms for a text running from left to right and then from right to left on the following line is βουστροφηδόν, which derives from βούς/*bous*, "ox," and the verb στρέφειν/*strephein*, "to turn." It refers to the pattern made by the plowing ox in the fields going back and forth (Woodhead 1981, 26). It is the same route as the weft threads (πήνη) going into the warp system from left to right and from right to left, a *πηνοστροφηδόν of a fabric.

In fact, in Akkadian the term *šakāku* has the meaning "to harrow," but also "to thread," "to pull back and forth(?)," "to tighten," "to string," "to form a row(?)," and "to be strung (with gems)" (Reiner, ed., 1989, 113–116). Cécile Michel and Klaas Veenhof (2010, 214 n. 18) further suggest that the term could also be translated as "to weave." Thus, Akkadian may connect weaving and the action of harrowing a field by their similar zigzag movement back and forth.

There may also be cognitive affinities between the rhythmic action of weaving and the highly developed Greek lyric metric traditions. The basic rhythmic structure of a fabric is the binding system, such as tabby or twill. The metric system of Greek lyrics divides all syllables into long (–) and short (˘) syllables. The syllables are combined in feet, which can be compared to the textile rapport. The basic metric feet of an iamb (˘ –) or a trochee (– ˘) recalls the basic tabby binding of weft threads going over and under the warp threads (˘ – ˘ – ˘ – ˘ – ˘ – ˘ – ˘ – ˘ –). Another binding is the twill, such as the 2/1 twill in which the rapport is composed of weft threads that pass over one and under two warp threads (– ˘ ˘). This pattern recalls the dactyls that constitute the basic elements of the Homeric hexameter.

Yet another common aspect of metrical structures and weaving was put forward by Tuck, who suggested that over the years the development of metrics may have been influenced by the number sequences of weaving communicated rhythmically through singing (Tuck 2006, 2009).

Weaving on the Loom and Playing Music on the Lyre

The verb *krekein* means "to weave" and also "to play an instrument." It is thus yet another example of a verb for weaving that was subject to semantic extension. In the case of *krekein* it seems that the common semantic field between weaving and playing music is the manipulation of strings: the term is employed for playing music on the lyre strings and also for the act of introducing the shuttle with weft yarn into the shed of the fabric. Although the verb *krekein* is not attested either in Homer or in Linear B, it belongs to a widely attested root found in other Indo-European languages (Mallory and Adams 2006, 232).

Another striking parallel between weaving and playing music may be found in the tools for weaving and for playing music. As Ellen Harlizius-Klück rightly points out, there is a tactile parallel between the horizontal, oscillating movement of weaving and the action of playing the lyre (Harlizius-Klück 2004, 104–105). In addition to the similar movements, stringed instruments and hand looms share technology: they consist of wooden frames onto which strings/threads are fixed with a certain tension.

The harp is attested in Cycladic art already in the Early Bronze Age. In Late Bronze Age Aegean iconography, it is found on the Hagia Triada sarcophagus and in a Pylos fresco (Younger 2007). The term lyre is attested in Bronze Age texts via the occupational term in the dual form *ru-ra-ta-e*, "lyre players," who are recorded on a Linear B tablet from Thebes (TH Av 106.7) together with individual men and also another professional designation, *ka-na-pe-we*, "textile fullers." The term lyre, however, does not occur in Homer or Hesiod (Maas and McIntosh Snyder 1989, 80), although there are 21 occurrences in Homer of another stringed instrument, the *phorminx*. The strings of the *phorminx* were made of sheep gut (*Od.* 21.408), while the strings of the hand loom are made of textile fiber. The rich iconographic evidence illustrates very well the affinities in terms of technology and construction between the hand loom and the lyre. In several cases, it can be difficult to decide whether a depiction illustrates weaving on a hand loom or playing music on a lyre. This suggests that the artisans either regarded the matter with indifference or that they may well have been conscious of, and perhaps expressed, this play upon meanings. In any case, as much as the two stringed instruments, loom and lyre, were similar, it remains important to note the gender division in use in both epics and iconography: women weave and men play the lyre (Younger 2007).

The Latin names for the parts of the lyre are similar to the names of the loom. Sarah Pomeroy has

observed that the Romans named the parts of the lyre by analogy with the parts of the loom, for example, *jugum*, *stamina*, and *pecten* (Pomeroy 1978, 19). Likewise, in the first millennium, the Greek name for the horns of a lyre is *ktéis*, and this is also the term for the comb used for weaving or for carding, according to Pierre Chantraine (2009, 568).

What is forgotten knowledge today is that looms and weaving make characteristic noises. These sounds must have been familiar to all members of an ancient household. When the heddle bars are pulled back and forth and the shed is changed, rhythmic thumping sounds occur. They are followed by the sound of beating the weft threads into the fabric with the weaving sword. This is accompanied by the clinking sounds from the impact of the loom weights, made of fired clay or stone. The weaver orchestrates these rhythms and sounds.

Thus, we must imagine a domestic acoustical landscape composed of familiar weaving sounds. These are the sounds Iphigenia recalls when she thinks about her home and childhood. She regrets that she will never again hear the sound of the *histos kalliphthonges*, "beautifully sounding loom" (Eur. *IT* 208–225).

In experimental tests conducted at the Danish National Research Foundation's Center for Textile Research, the weaving process was analyzed. In a 2/2 twill weave of ca. 16 threads per cm, it took on average 20 minutes to weave eight wefts. This would mean that the weaver changed the shed approximately every two to three minutes (Mårtensson, Nosch, and Andersson Strand, forthcoming). In a tabby weave of 10–12 threads per cm, one weaver wove approximately 30 wefts per hour and thus changed the shed every two minutes (Andersson et al. 2008). These experimental tests of weaving yielded clothing-quality textiles. Thus, for coarser textiles and coarser threads, and in more open fabrics with fewer threads per cm, a weaver would be able to change the shed more often, because when the warp threads are spaced farther apart it is easier and faster to change the shed. During the experiments, the sounds of weaving were unmistakable.

Harlizius-Klück, hand weaver, philologist, and mathematician, sees weaving and braiding as the prototypes of geometric and arithmetic applications (Harlizius-Klück 2004, 130). In this respect, there is again the association with music that is considered by ancient scholars to be an element of mathematical thinking. We could therefore view weaving and music as two applications of mathematics, or, alternatively, assume that mathematics derives from the basic knowledge of music and textile technology (Harlizius-Klück 2004). This is also supported by Tuck's interpretation of songs as mnemonic devices for complex weaving (Tuck 2006).

The Textile Identities of Homer's Weaving Women

Helen and Andromache wove tapestry weaves. In some ways, the two women chose themes that reflected their own identity in the epics: Andromache weaves colorful floral patterns (*Il.* 22.440–441), while Helen depicts her vision of warrior scenes from the Trojan War (*Il.* 3.125–128):

> τὴν δ' εὗρ' ἐν μεγάρῳ· ἣ δὲ μέγαν ἱστὸν ὕφαινε
> δίπλακα πορφυρέην, πολέας δ' ἐνέπασσεν ἀέθλους
> Τρώων θ' ἱπποδάμων καὶ Ἀχαιῶν χαλκοχιτώνων,
> οὕς ἕθεν εἵνεκ' ἔπασχον ὑπ' Ἄρηος παλαμάων·
>
> She found Helen in the hall, where she was weaving a great purple web of double fold on which she was embroidering many battles of the horse-taming Trojans and the bronze-clad Achaeans, which for her sake had endured at the hands of Ares.

Murray's translation of "embroidery" is highly unlikely; what is referred to is rather the technology of patterned weave used on the warp-weighted loom.

Some scholars have even suggested interpreting the etymology of the weaving heroines' names with textile connotations, but this issue is still debated. Harlizius-Klück (2004, 143–144) suggests that the name of Penelope contains the element *pene* "weft" and that her name means "the one who abandons the weft." This interpretation was already put forward in the 19th-century *Wörterbuch der griechischen Eigennamen* by Pape and Benseler (1863–1870, 1193; see also von Kamptz 1982, 275–276); however, Chantraine (2009, 865) rejects this construction and only accepts the

association with the bird name *penelops*, a kind of duck. The Classical Greek terms for warp (στήμων) and weft (πήνη) are not attested in Linear B.

Interestingly, another female protagonist, Circe, also has a name with a meaning that could either be related to a bird's name or a textile term. According to Chantraine (2009, 513), Circe comes from κίρκος, which is a variety of falcon. Harlizius-Klück (2004, 112), in contrast, suggests that Circe's name could be related to *kerkis* (κερκίς), "shuttle," a fundamental tool for weaving.

The Web of Female Textile Communication: The Voice of the Shuttle

Textiles have been interpreted as a specific means of female communication, invisible to and inaudible to men. Nausicaa, desiring to marry Odysseus, dresses him in a specially chosen garment. Then she sends him to her mother, the queen Arete. The queen immediately understands her daughter's message of love, desire, and marriage because she recognizes the textiles made by herself (*Od.* 7.233–235). Moreover, in Greek mythology, the narrative brings connections between weaving and plotting to light. Philomela, after the rape by her sister Procne's husband Tereus, is silenced and her tongue cut out. Using a narrative of tapestry weaving, she tells her story to her sister, as reported by Ovid in his *Metamorphoses*. Philomela's tapestry is inscribed in another weaving tradition of female narratives: Arachne's weaving in her competition with Athena narrates the love and sexual encounters between male gods and female humans in the myth (Harlizius-Klück 2004, 23–24).

Aristotle noted how Sophocles, in a lost piece on the topic of Philomela and Tereus, employs the poetic expression "the voice of the shuttle," ἡ τῆς κερκίδος φωνή (*Poet.* 1454^{b}). Particularly in American feminist scholarship, "the voice of the shuttle" has become emblematic of the suppressed female voices in classical and contemporary literature (Klindienst Joplin 2002; Harlizius-Klück 2004, 145–146). For example, in the myth of Philomela, the "safe feminine, domestic craft—weaving" is interpreted as being "a new means of resistance" (Klindienst Joplin 2002, 260).

Maria Pantelia (1993) has suggested viewing fabrics with figurative decorations as the means for women to acquire a voice and express their stories and realities in opposition to the words of the men, who could raise their voices in Homeric society. Thus, figurative weaving became women's only way to express their version of the truth, and it was perhaps even their means of manifesting a domestic upheaval. Women would have taken tapestry weaving as their canvas, because it was the only available means of expression to them. This is certainly in accordance with the situation seen in the epics. As Ann Bergren states, exploring the connection between women, language, and weaving: "the semiotic activity peculiar to women throughout Greek tradition is not linguistic. Greek women do not speak, they weave" (Bergren 2008, 15).

From the voice of the oppressed gender, tapestry and weaving therefore became the female tool—or even weapon—in the struggle for truth, in writing history and passing on messages. Classical philologist Martin Steinrück emphasizes this secret female textile language in the epic works. The erotic favor of a woman toward a man can be expressed by a textile gift, for instance, Circe, Calypso, and Nausikaa, who love Odysseus and express their sometimes obsessive love through the gift of a garment (Steinrück 2003, 37–38).

Philomela communicates via *grammata*, according to Apollodoros (*Bibl.* 3.14.8), to denounce her brother-in-law's crime. *Grammata* can mean both written messages or designs, patterns, and figurative ornamentation. These *grammata*, however, are only understandable to women. It seems that women exercised an exclusive control over textile qualities that only they could assess and understand. The Homeric male community had to trust a woman's quality control because part of the household's intrinsic status depended on her judgment.

Another type of female control is the social control exerted by women on textile production and consumption: Penelope emphasizes how she fears the reaction of other Greek women if she fails to finish Laertes's shroud (*Od.* 24.136). Moreover, as

Steinrück points out, Odysseus, to his wife's satisfaction, describes how other women had admired his clothes during his travels:

> The scene that Odysseus invents in the *Odyssey* to please Penelope is revealing (Hom. *Od.* 19.232–235): when he arrived in Crete, the women of the palace surrounded him, not to admire him, but to analyze the type of cloth that he wore and which Penelope had made for him. His wife, hearing this discourse, is satisfied. Odysseus would not have told this story if he did not know that husbands were a kind of "living billboard" for a female audience; the women exchanged by their clothes a kind of dialogue, unappreciated by the men who wear these clothes. (Steinrück 2003, 38, translated from the original French)

Textiles and Status

According to Hans van Wees (2005, 9 and n. 43), Helen and Andromache weave peploi; Barber, however, interprets their *oeuvres* as wall hangings (1991, 358–382; 1994, 153, 211), which would be consistent with the narrative aspects of their textiles.

Penelope weaves—and unravels—for three years, and it is only in the beginning of the fourth year that the suitors discover her actions. This suggests, first of all, that textile production is time consuming, and second, that the shroud of King Laertes was clearly an expert task consisting of very laborious textile techniques. The dynastic link between Penelope and Laertes also made this a personal task that could not be assigned to any other women or to slave labor. Finally, this magnificent textile is emblematic of Penelope's elite status, wealth, and technical skill. "The scope and size of great wealth is symbolized by Penelope in a dramatic fashion: through her skill at weaving. Penelope uses weaving as a ruse to forestall the suitors but it is clear that she is an expert at the loom in creating physical as well as intellectual products," concludes Carol Thomas (1988, 261).

Clearly an abundance of textiles is emblematic of elite households; the textiles assure and consolidate the household's wealth in the present, as well as the household's past history. Textiles also illustrate the commitment toward guests and display the connection to the wife's family, which has contributed to the most visual part of the dowry, the textiles. The greater the number of textiles, the greater the wealth that is signified. The abundance of clothes equals elite life, as demonstrated by the royal family on the island of the Phaeacians for whom: "the feast, the lyre, and dances are always close to our hearts, and changes of clothes, hot baths and siestas" (*Od.* 8.248). It is worth noting that the ability to change clothes and the luxury of having more than one set of clothes convey the Homeric notion of an ideal life. This also explains why the Trojan women are Τρῳάδας ἑλκεσιπέπλους, "Trojan women with trailing robes" (*Il.* 6.442), illustrating the abundance of cloth in their clothing.

Thomas (1988, 262–263) also sees weaving as both an exceptional skill and a sign of elite status and prosperity:

> . . . the possession of goods was the means to and mark of status, that is, exceptional position. Just so, the skill of weaving was needed only in exceptional households. In the list of weavers of the *Iliad* and *Odyssey*, Penelope is joined by Helen, Andromache, Calypso and the nymphs. This is no demeaning ability; in fact, it belongs to the mighty not the lowly of society. These women are able to weave and create woven raiments that often are stored as treasures such as the Phaeacian gifts to Odysseus surely were. Of course, some weaving was directed at production of practical items, such as the shroud for Laertes. However, raiments could be stored, "impractically" on the shelves in chambers to be given in gift exchange at a later point in time.

Here it is clear that Thomas sees weaving as a particular skill for elite women producing fabrics and textiles of exceptional value, which could be used in gift exchange and which would generally increase the status of the household. The value of weaving, according to Thomas, is thus not so much to produce the day-to-day, practical, and yet essential items for a household but to produce valuable items in the sense of a lasting investment

with an internationally recognized exchange value. It is, however, rather unlikely that the skill of weaving was needed only in exceptional households. This ability was probably practiced in every household where the constant need for bedding, clothing, sacks, and coverings had to be met.

Weaving and textile manufacture in general are very time consuming and require organized and constant labor and numerous craft workers. This is evident in the A series of Linear B tablets, recording hundreds of women and children who were assigned to textile work groups (Killen 1984; Nosch 2001, 2003). Despite the difference in scale between Mycenaean and Homeric societies, it is clear that the basic length of time taken to produce a given textile was the same in the Bronze Age and the Iron Age. It is also reasonable to assume that female labor, cheap but skilled, was required in the Early Iron Age in order to meet the demand for textiles—a requirement that in elite households went well beyond the capacities of the mistress of the house alone. She would need permanent slave and child labor to clothe the household members well and furnish the house elegantly. The labor force could come from captive slaves from wars. Indeed, Hector regrets that if the Trojans lose the war, Andromache will be forced to go to Argos as a slave and weave for another woman (*Il.* 6.456):

> καί κεν ἐν Ἄργει ἐοῦσα πρὸς ἄλλης ἱστὸν ὑφαίνοις
> Then perhaps in Argos will you ply the loom at another woman's bidding

However, textiles conveyed other messages as well. Dyes, colors, and patterns testified to the long-distance networks in which an elite Homeric family acted and the available resources at its disposal:

> Clothes are not only the mark of economic power monopolized by women, but they also indicate international relations with other families or women in other cities and countries. Thus the connection between cities and clothing is an extremely important point and one of the recurrent themes in Sappho. This theme is not only a sign of internationalism, but masculine texts and captions consider this connection like a sort of inter-female language that men do not understand. (Steinrück 2003, 37–38, translated from the original French)

Textiles—and also the women who were the producers of textiles, as observed by Claude Lévi-Strauss (1976)—were exchanged within international networks between groups. The Homeric epics demonstrate how the circulation of objects, textiles in particular, played an important role in the process of social valorization in Early Iron Age societies.

Discussion and Conclusion

With this knowledge of linguistic and technological links between weaving, plotting, playing music, and sewing, it is worth reviewing the extent to which such connections can be seen in iconographical evidence as well. It is also important to discern when these fields became associated with each other in the first place. Textile technology and its language are the same in the Bronze Age as in the Iron Age (Desrosiers 2010; Michel and Nosch, eds., 2010), although the nature of the documentation, such as palace lists and inventories, does not allow us to investigate Mycenaean metaphors. But Aegean Bronze Age iconography, as for example on the Hagia Triada sarcophagus, shows the similarities between looms and musical instruments. Unfortunately, despite the rich documentation of Aegean texts and images, we still cannot hear their music and poetry, hear the sweet-sounding loom, feel and touch the fabrics, or see the exquisite tapestry weaves. However, this does not mean that they did not exist. We know that the Aegean population had the technology for weaving and playing music. In fact, Bronze Age iconography strongly suggests the existence of an epic universe that has come down to us in the form of the Homeric poems (Morris 1989). Furthermore, the analysis of the various Greek poetic traditions of the first millennium B.C. suggests there are common origins dating back to the Late Bronze Age (West 1973). On the basis of the widespread use of certain phrases concerning fame and pride, along with the joint concept of weaving and composing, some scholars have suggested a continued Indo-European epic tradition (Schmitt 1967; West 1973; 2007, 35–38). Gregory Nagy sees strong connections between the weaving of fabrics and the construction of epics

and suggests that the festival of the *Panathenaia* was an occasion in which weaving and the reciting of Homer met. Every four years, Athens hosted the ritual in which the climax combined the presentation of a peplos to Athena and the performance of the Homeric epic (Nagy 2002). The goddess Athena indeed incorporated epic fame and the craft of weaving: Martin P. Nilsson, in his study of Athena, concludes:

> As a city goddess, she guarded over all the occupations of the populace, not so much of agriculture, which was already richly provided with patron deities, but more often of those that had arrived with a more advanced culture and which therefore had to find their own divine patrons, i.e., the arts and crafts. Moreover, since she was a woman, it was only natural that she especially patronized female craftsmanship. (Nilsson 1921, 20, translated from the original German)

It seems likely that the epic tradition of diligent female heroines singing before a loom is not only a mundane reflection of an Iron Age woman's daily life but also stems from an ancient narrative universe in which women designed and described their destiny through weaving.

There are several etymological connections in Greek between the verbs for weaving, sewing, and the verbs' secondary senses of plotting and devising. In other languages, similar parallels could be put forward, but a comprehensive analysis of all such elements would be impossible within the constraints of the present investigation. Traces today can be seen in "text" and "textile," the etymology of "text" being Latin, *textus*, meaning "that which is woven."

Shelmerdine's emphasis on an interdisciplinary approach to the study of the earliest stage of Greek history has guided this survey. It seems to me that we can see the interweaving of women, plotting, music, and textiles most clearly in two specific areas: language and technology. The lyre and the hand loom are so similar in their construction that we sometimes fail to see the difference. Textile production and lyre playing seem to be reconcilable activities. The strong connection between music, narrating, singing, sewing, and weaving in European languages suggests that the cluster belongs to a common ancient pool of metaphors and maxims, one which is still very much alive and productive today despite our modern distance from any textile crafts. It is thus tempting to suggest that weaving, story telling, sewing, and singing belong to this series of common metaphors shared by the Indo-European languages.

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CHAPTER

9

Chariot Makers at Pylos

Robert Schon

Cynthia Shelmerdine's contributions to the understanding of Mycenaean industrial activity, administration, and the interweaving of archaeological and textual evidence have been seminal.* Inspired by her work on perfumed oil manufacture at Pylos and by a series of discussions that I had with Cynthia when I was a graduate student, I embarked on an examination of the production of Mycenaean chariots at the Palace of Nestor at Pylos. That project explored the nature of chariot manufacture in the polity and documented the way in which palatial authorities used chariots and other crafted items to communicate and materialize their ideology (Schon 1994, 2007). In this paper, I take that investigation further, exploring the social roles and positions of the people involved in chariot making within the Pylian polity. It is an honor to dedicate this study to Cynthia, a specialist in the craft of scholarly excellence.

The Study of Craft

The study of crafting and crafted items is foundational to archaeology, forming the basis of our understanding of chronology and cultural variability. For this reason, the analysis of craft production has tended to be treated as an end in itself. Alternatively, it can be integrated into the study of broader phenomena of interest to archaeologists, such as evolution, complexity, identity, and agency. Over the last few decades, these themes have become

*I would like to thank the editors for inviting me to participate in this celebration, and I am grateful to Dimitri Nakassis and Emma Blake for insights that helped me to clarify many of the thoughts presented here.

prominent among archaeologists working throughout the world, and they have also entered the orbit of some of us who work in the Aegean, as shown by several papers presented at the *Texnh* conference held at Temple University in 1995 (Laffineur and Betancourt, eds., 1997).

Interest in the relationship between industrial production and the rise of complex societies (a running theme of Adam Smith's *Wealth of Nations*, originally published in 1776), long predates Aegean archaeology, and it has been a fundamental aspect of the writings of thinkers such as Marx, Durkheim, Childe, Boas, and others. As for the Aegean, Colin Renfrew encapsulated the perspective in his book *The Emergence of Civilisation* (Renfrew 1972). Renfrew integrated subsistence surplus, craft specialization, and social complexity in an explicitly evolutionary framework with some implied aspects of agency (see Renfrew 1972, 491–493). He saw the interplay in these subsystems as primarily cooperative and leading to the ultimate rise of the Minoan and Mycenaean states. For Renfrew, specialization in craft production (a hallmark of complex societies) emerged as a result of "agricultural efficiency" (i.e., surplus in subsistence production), "new techniques" (i.e., improved technology), and increased demand (Renfrew 1972, 340–341). From another perspective, increased specialization may be framed in a more competitive manner *sensu* Marx, with elites exploiting workers to further the former's own ends. The differences between such explanations are primarily those of motivation, not necessarily mechanism, and in the case of Pylos, both the craftspeople and the elites they served benefited from their relationship.

In the last two decades, more emphasis has been placed on examining craft production in order to elucidate structural aspects of Mycenaean political economies. This was done initially in the context of a discussion of redistribution and mobilization of resources, and more recently in the context of systems of staple and wealth finance following D'Altroy and Earle (1985; Galaty and Parkinson, eds., 2007; see also the papers in the recent *American Journal of Archaeology* forum "Redistribution in Aegean Palatial Societies" [Galaty, Nakassis, and Parkinson, eds., 2011]). According to these approaches, craft specialists are attached to political centers (in the Mycenaean case, the palaces) and produce prestige goods that operate within the wealth finance system. Crafted objects, by materializing the ideology of the dominant group, play a role in defining elitism and help to demarcate class structures (De Marrais, Castillo, and Earle 1996). Thus, controlling craft production, style, and distribution becomes a source of power (Mann 1986; Schon 2007).

Critiques of top-down approaches to complex societies in general and the negotiation of power more specifically have come from scholars who emphasize agency and the role played by all interested parties, not just the elites, in the shaping of society (e.g., Nakassis 2013). From this point of view, it is important to investigate the roles and identities of the artisans as well. The patrons of artisans are not the only ones who take advantage of the fruits of their creative labor. Artisans themselves can be among the elite and may use the act of crafting to enhance their position within their local social hierarchies (Gillis 1997; Inomata 2001). In addition, as arbiters of style, they help define, to varying degrees, what constitutes a status symbol, and as a result they can constrain the actions of the political elites they allegedly serve (Costin 2007). This emphasis on craftspeople as agents corrects the specious assumptions of previous top-down approaches that see them as passive, low-status subjects.

In addition to a renewed interest in the craft producers themselves, there has been a surge in scholarship attempting to model or classify types of craft production (Clark and Parry 1990; Costin 1991, 2001, 2005, 2007; Clark 1995, 2007; Hruby and Flad, eds., 2007). The bulk of this research focuses on how production is organized and how sponsors and producers relate to each other (e.g., Earle 1987). Terms such as "attached" and "independent" were first formulated as discrete categories and then viewed as part of a continuum (van der Leeuw 1977; Brumfiel and Earle 1987; Earle 1987). Other dyads, such as household or workshop production, part-time or full-time, and nucleated or dispersed, have all been put forward as ways to frame comparative discussions of how systems of crafting operate (Costin 1991).

The recent emphasis on theorizing about crafts has not been without its problems, as the categories described above are proving to be inadequately resilient as more data are applied to them. For example, Inomata (2001), observing that the craft

producers at the site of Aguateca in Guatemala were themselves Maya elites, has questioned the utility of the concepts of attached or independent specialists. Similarly, Gillis (1997), noting that both the palace at Pylos and the *dāmoi* (local communities throughout the polity) sponsored independent, high-status craftspeople, also saw those categories as irrelevant. Some (e.g., Clark 2007) have considered abandoning well-established concepts, such as "craft specialist," altogether, calling them instead "generic summaries of typifying behavior" (Clark 2007, 20). Although Clark does not propose any concrete alternatives, Costin responded to him by stating that rather than more theorizing what is needed now is detailed empirical observation—archaeological "thick description," in the sense of Geertz (1973) and Ryle (1968; Costin 2007; see also Hruby et al. 2007). From this point of view, the work Shelmerdine did to elucidate the making of perfumed oils at Pylos (Shelmerdine 1984, 1985) and mechanisms of administering industrial activity there (Shelmerdine 1987) continues to be on the cutting edge of scholarship nearly a quarter century after her studies were published.

A similar trend can be seen in the study of political economies. While the distinction between systems of staple finance and wealth finance (D'Altroy and Earle 1985) has become heuristically very useful and has helped us move beyond a monolithic view of redistribution, examples are emerging in which our data do not fit our classificatory schemes neatly enough. For example, there has recently been a proliferation of research into feasting in complex societies in general (Dietler and Hayden, eds., 2001) and in the Mycenaean world in particular (Wright, ed., 2004; Halstead and Barrett, eds., 2005; Hitchcock, Laffineur, and Crowley, eds., 2008). How do we classify the foodstuffs in a feast? Outside of a feasting context (and to a slight degree within it), foods operate within the staple finance system of a polity's economy. Yet, when incorporated into a feast, which carries with it additional layers of meaning, food items and the vessels in which they are served become elite commodities that operate in the wealth finance system (Schon 2007; Reifshneider 2009; Nakassis 2010). Context becomes critical in defining objects, and more complex modeling is required to incorporate this variability.

The problem with the types of categorization described above is that they presuppose the relative status and positions of the individuals and artifacts involved in social relationships. In fact, such relationships are context-specific and should be approached without a priori assumptions. While, for example, there may be a general trend that links attached specialization with social inequality (Clark 1995), the relative social positions of attached producers are not necessarily determined by this link (Stein 1998; Inomata 2001).

In this light, I present below a study of the chariot industry at Pylos with an emphasis on its human component: the managers, the skilled craftspeople, and the laborers who put together these machines. Chariot production and the people involved in it were embedded within the political economy of the state. This industry, a relatively newly established one, relied on a number of preexisting economic structures and crafting agents in order to operate. Consequently, chariot manufacture, as a craft activity, was not the sole, or even the primary, activity on which the people involved based their political identities. In fact, many of the people who worked on the manufacture of chariots played other roles in the state apparatus. They, therefore, cannot be classified as "specialists" in the traditional sense, since their labor, although highly skilled, could be applied to multiple activities. My goal in this examination of the chariot industry at Pylos is to point out the way in which it was embedded within the economy and to discuss what this means for the broader study of crafting.

The Chariot Industry at Pylos

The study of Mycenaean chariot manufacture presents both problems and opportunities when compared to archaeological investigations of other types of crafting. One unproblematic aspect of chariots is their status as prestige items and their relative value. There can be little doubt concerning the value of Late Bronze Age chariots or the prestige afforded their possessors. In a society in

which elite male identity was centered on hunting and militarism, chariots were the high-status markers par excellence (Sandor 2004; Schon 2007). The use of a chariot was limited to the elite, as was the possession of horses and the ability to maneuver the chariot, which was no doubt learned only after intensive training (Hyland 2003; Schon 2007). This was not only the case in mainland Greek society but "internationally" as well (Feldman 2002, 2006). Thus one variable in our equation, the question of value, is not problematic.

The physical composition of chariots, as composite artifacts, poses certain challenges. Unlike most crafted items studied by archaeologists, such as pottery or stone tools, Bronze Age chariots were made up of multiple types of materials, each requiring different skills to work. Their manufacture required the skills of the woodworker, metalsmith, and leatherworker. Furthermore, in an industrial context such as at Pylos, where chariots were produced in quantity, the manufacture of chariots required assembly workers and managers to oversee all stages of the process, not just skilled craftspeople.

There can be little doubt that the chariot industry at Pylos was "attached," even if some of the loci of chariot work and some of the specialists involved may not have been. Space, nevertheless, becomes an issue. We know that the "headquarters" of the chariot industry was the Northeastern Building, a part of the palace complex at Pylos (Lang 1958; Schon 1994, 2007). There is no evidence whatsoever of chariot manufacture outside of any palatial purview during the Late Helladic III period, and I would argue that, given the complex nature of the artifact and its various parts, the large scale manufacture of these machines could not have occurred without the type of coordination made possible by the palace authority and bureaucracy. However, the locations of the workshops where chariot parts were produced and the final assembly of chariots took place remain undocumented archaeologically (unless we concede that the Northeastern Building was, indeed, the shrine of Potnia Hippeia; see Lupack 2008a, 2008b, for summaries of the debate). What we do have to help us overcome some of these archaeological obstacles are texts. There is a good deal of evidence in the Linear B tablets that documents the material components, the people involved in, the locations, and the methods of administering the chariot industry at Pylos. Elsewhere, I have reviewed the evidence for the material and administrative aspects of the chariot industry (Schon 2007), and here I focus on the people involved.

Linear B texts indicate that palace officials carefully monitored the labor force engaged in the manufacture of chariots. However, the fact that the industry as a whole was attached, in the anthropological sense of the term, does not automatically mean that the specialists were (Costin 2007; Flad 2007). The false dichotomy of low-status craft workers attached to high-status palatial elites occludes our understanding of the roles played by individuals in industrial production, the importance of such production in the political economy of the polity, and consequently, the overall nature of the polity itself (Inomata 2007; Miller 2007). In the ensuing discussion of the men and women who took part in chariot production, I begin by outlining their roles in chariot manufacture and then move on to discuss their status in Pylian society.

Chariot Making Personnel at Pylos

The preponderance of evidence for chariot manufacture at Pylos was excavated in the Northeastern Building. While some artifacts found there may attest to the industrial nature of the structure, the most useful evidence comes from the Linear B tablets, which reveal the building's use as an administrative office. The personnel of the chariot industry centered at the Northeastern Building included supervisors, skilled craftspeople, and general laborers (Schon 2007, 136–137). In addition, it is possible that certain scribes, such as Hand 26, who wrote all the tablets of the Sa series that record chariot wheels (Palaima 1988, 93–94), may have been assigned exclusively to that industry. A number of supervisors and skilled craftspeople are mentioned in the Linear B tablets by name, and they form the basis of the discussion below.

Tablet An 1281, found in the Northeastern Building at Pylos, lists four supervisors (**au-ke-i-ja-te-u*, *me-ta-ka-wa*, *mi-jo-qa*, and *a-pi-e-ra*),

each of whom is assigned workers at two different Potnian shrines. The slaves (*do-e-ro-i*) of three supervisors receive rations of barley on tablet Fn 50 (more on this tablet later). At the shrine of *po-ti-ni-ja i-qe-ja* (the Mistress of Horses), *o-na-se-u* and *ta-ni-ko* are assigned to **au-ke-i-ja-te-u*; *po-so-ro* is assigned to *me-ta-ka-wa*; *e-we-za-no* is assigned to *mi-jo-qa*; and *to-ze-u* is assigned to *a-pi-e-ra*. At a second shrine of Potnia, located at *po-ti-ja-ke-e*, [ ]-*ro* is assigned to **au-ke-i-ja-te-u*; *ma-ra-si-jo* is assigned to *mi-jo-qa*; *ti-ta-ra*-[*wo*] is assigned to *me-ta-ka-wa*; and *ru-ko-ro* is assigned to *a-pi-e-ra*.

It is possible that all of the workers on An 1281 who are assigned to supervisors are bronzesmiths. Five of them certainly are: *re-u-si-wo* (Jn 692, Jn 725), *o-na-se-u* (Jn 601, Jn 658, Jn 725), *po-so-ro* (Jn 601, Jn 750), *ma-ra-si-jo* (Jn 706), and *ti-ta-ra-wo* (Jn 389). These individuals are explicitly mentioned as smiths who receive a *ta-ra-si-ja* (a type of contract) from the palace in the Jn series, and they do not appear elsewhere (Nakassis 2013). Only two other men among these recruits appear elsewhere in the tablets: *ta-ni-ko* is an officer in the *o-ka* of *ne-da-wa-ta* at *o-wi-to-no* (An 657), and *ru-ko-ro* appears as a landholder on numerous Ea tablets (Ea 132, 782, 799, 823, 882, 1424). In both cases, Nakassis (2013) lists the identification of the cross-references as "tenuous." However, a number of smiths do appear throughout the Ea series (Nakassis 2013, 134), leaving open the possibility that *ru-ko-ro* is indeed a smith and the same one mentioned on An 1281. For Nakassis (2013, 97), the status of *ru-ko-ro* as the slave of a priestess justifies his status as a landholder. However, the two explanations are not mutually exclusive. As for *ta-ni-ko*, it would be odd for a military officer to be the slave, *do-e-ro*, of someone (see discussion of Fn 50); however, there is precedent for individuals to have multiple roles in the Pylian military-industrial complex, so a match of the two entries would not be entirely surprising.

Further clues to the roles and identities of these men and women are provided by tablet Fn 50, which lists payments of food rations to a number of craftspeople (Ventris and Chadwick 1973, 216–217; see also Palmer 1963, 227–229; Killen 2001). The tablet can be divided into three subsections. Lines 1–3 record payments to three *qa-si-re-wi-ja*, retinues of *basileis*, who are important state officials and, in this case, in charge of what Palmer labels "industrial establishment[s]" (Palmer 1963, 228; see also Killen 2001, 436–437). Lines 4–9 record payments of food rations to people listed by occupation (e.g., armorers, bakers, and yokers). After a gap, lines 11–14 record food ration payments to the slaves, *do-e-ro-i*, of three of the supervisors listed on An 1281. The slaves of **au-ke-i-ja-te-u* receive twice as much grain as those of *mi-jo-qa* and *a-pi-e-ra*. On An 1281, **au-ke-i-ja-te-u* is assigned three workers while *mi-jo-pa* and *a-pi-e-ra* receive two. If the ration payments were consistent, then we would expect a fourth individual to be assigned to **au-ke-i-ja-te-u* on An 1281. Nakassis (2013, 97) suggests that this fourth person's name may have been the erased *i-qe-ja* VIR next to the name of **au-ke-i-ja-te-u* on line 4, or, alternatively, the erasure was made previously and the fourth man's name would have gone there had the scribe known what it was. Considering what we do know about the named individuals on An 1281 as well as the nature of Fn 50, namely, their secure associations with crafting generally, and sometimes metallurgy specifically, I suggest that all of the men assigned to supervisors on An 1281 are indeed bronzesmiths.

We know that **au-ke-i-ja-te-u* does not only supervise smiths but also supervises or performs the production of leather chariot parts. On Ub 1318 he receives at least 12 skins for various leather goods, including saddlebags, straps, bindings, and panniers of basketry. Other craftspeople who receive hides are *me-ti-ja-no* and *wo-di-je-ja*, who are possibly a married couple (see Vn 34), *a-pe-i-ja*, and *mu-te-we*. The latter two are not mentioned elsewhere. Two other Ub tablets are relevant here. Two men, *ra-ma-jo* (Ub 1316) and *i-wa-ka* (Ub 1317), are named on tablets found in the Northeast Building as owing the palace eight deerskins each. These men are listed elsewhere as smiths (*ra-ma-o*: Jn 692, Jn 725; *i-wa-ka*: Jn 310), so their obligation to supply deerskins would seem at first surprising, except the tablets upon which those obligations were recorded appeared in an industrial context. If those skins were to be used to make chariot parts (such as the *di-pte-ra*$_3$ *e-ru-ta-ra*, "red hides," listed on Ub 1315), then their suppliers would fit into the industry well. Thus, like **au-ke-i-ja-te-u* and at least a few of the smiths on An 1281, *ra-ma-jo* and *i-wa-ka* play multiple industrial roles in the political economy of the polity.

On An 1282 groups of anonymous men are sent to work on various chariot parts. The basic unit is a group of 18 people. Two groups of this size are sent to work on chariot bodies and wheels. A group of 18 is split between baskets (13), probably where chariot riders stood, and halters (5). The *do-ka-ma-i*, translated by Ventris and Chadwick (1973) as beams, probably the chariot pole, which would have taken two individuals to carry, receive a double group of 36 workers. Coincidentally, the Sa series, a set of tablets related to chariot wheels, lists 18 distinct wheelwrights (as identified in Nakassis 2013), and it would be tempting to associate these 18 with one of the groups of men on An 1282; however, given the fragmentary nature of the Sa set, that association can only be conjectural at this stage. Tablets of the Ac series, also discovered in the Northeastern Building, list anonymous workers recruited from various towns in the Pylian kingdom in the same manner in which the palace collects taxes. It is attractive to see the Ac series and An 1282 in conjunction with each other, since the Ac tablets record incoming men and An 1282 lists their assignments. But again this remains a hypothesis based on circumstance.

To summarize, the tablets from the Northeastern Building reveal an industry and workers that are embedded in the Pylian economy in multiple ways. There are no chariot "specialists." Rather, the industry's managers recruited individuals from throughout the polity, some of whom had other identifiable roles, to work on them. For example, the supervisors, who oversee activities at multiple shrines, seem to be religious officials as well. The skilled workers, such as the bronzesmiths, produce chariot and nonchariot-related goods and may also work at multiple locations. This method of organizing the industry may be due in part to the nature of chariots as composite artifacts. In addition, unlike metallurgy and pottery manufacture, which were well-established crafts long before the palace was constructed, the making of chariots was a relatively new industry. In fact, the Northeastern Building, where chariot manufacture was coordinated, was the last structure built at the palace complex (Nelson 2001). We can thus imagine smiths adept in bronze working for other purposes being recruited for chariot production.

The situation at Pylos forces us to reconsider the ways in which craft activity is theorized, specifically the concepts of attached and independent specialists and the relative status of each in a given complex society. In this case, putting individuals in one category or another is futile, since those labels can change at a given moment, depending on the context of the job they are performing.

Rethinking Craft Specialization

The long-standing model of craft specialization posited that the production of surplus led to a division of labor that permitted individuals to engage in nonsubsistence activities and become specialized craftspeople. In early states, rulers who could procure and mobilize surplus subsistence goods could support craft specialists to produce high-value objects within a wealth finance system. These objects, by materializing the ideology of the ruling group, helped it to centralize power.

Recent scholarship, focusing on practice and the social context of production (see papers in Hruby and Flad, eds., 2007), has questioned certain assumptions of this model. Specialists are not always dependent on others to supply their subsistence base (Clark 1995; Flad and Hruby 2007; Inomata 2007), nor does specialization always imply full time devotion to a particular type of production. Furthermore, without a fuller understanding of the relationship between producer, crafted object, and consumer, it is not possible to determine the relative social status of the craft producer (Stein 1998).

In the Pylian case, we have an attached industry—the manufacture of chariots is certainly sponsored and coordinated by palace officials—but to what degree were the people who worked in this industry attached? It appears that the answer is "not very." If the chariot industry were to have been shut down, the individuals who worked on chariots would still have had other economic roles to perform. The supervisors, who seem to have been religious officials, would have continued to work at their shrines. The metalsmiths, woodcutters, and leatherworkers would have continued to ply their crafts, and

the laborers would have returned to their *dāmoi*. Nevertheless, I would argue, their participation in this industry had a number of benefits that made it worthwhile to them.

Here, Ames's (1995) notion of embedded specialization is useful. In contrast to perspectives that situate specialists in terms of their relative status (e.g., Brumfiel and Earle 1987; Costin 1991) or the degree of alienability of their products (Brumfiel and Earle 1987), Ames defines embedded specialists as being fluid in terms of their time spent performing craft work, their class, and their degree of attachment (Ames 1995, 158). What is essential for Ames is that their work is "integral to the functioning of that economy."

Ames's case study, chiefdoms of the Pacific Northwest Coast, lacks the overall complexity of the nascent state at Pylos, and thus he relies on kinship as the tie that binds specialists to their respective economies, but the parallels are nevertheless valid. At Pylos, the power base of palace elites rests in part on the consent of the individuals they govern. To promote and maintain that consent, palace elites engaged in a number of strategies that ranged from coercion to enfranchisement. Elsewhere I have argued that the distribution of chariots to certain individuals helped palatial officials garner loyalty among certain members of the populace, advertise their power, and enhance their ability to administer the region under their jurisdiction (Schon 2007). The way the chariot industry is organized, through embedded specialists, also serves to enhance the public image of the palace.

The fluid, semiattached relationship the palace had with its embedded workers was a cost-effective strategy in a number of ways. By "hiring" and paying rations to certain workers, the palace created affiliations with them. Such affiliations brought material support to both parties and a certain degree of local prestige to the workers in their home *dāmoi*. By using workers on a part-time basis only when they were needed, the palace did not have to fully support them in terms of their subsistence needs, thus saving resources, and it did not sequester them in physically attached workshops where they would not be able to communicate their affiliation with the palace to their kinfolk back home. The specialists, in turn, continued their regular work but could rely on the palace for extra income in the form of rations or materials. Higher status members of the industry, such as the supervisors, maintained closer ties to the palace through their attachment to religious shrines, institutions that received further palatial support. Less skilled anonymous laborers, such as those listed on the Ac series and An 1282 might not have benefited as directly, but their work helped fulfill the tax obligations of the communities from which they came.

This assessment of the organization of chariot production at Pylos invites us to reconsider the way we model the relationship between political elites and the craftspeople whom they employ. The relative social status, degree of attachment, and level of specialization of craft workers are multiplex and defy the strict categorizations that archaeologists have tended to place upon them. At Pylos, such workers were embedded in the palatial economy in a variety of ways. Exploring these nuances helps us to gain a fuller understanding of the political economies of the Mycenaeans—a task pioneered by Cynthia Shelmerdine.

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Religion and Iconography

CHAPTER

10

The Minoan Goddess(es): Textual Evidence for Minoan Religion

Joann Gulizio and Dimitri Nakassis

Minoan religion is one of the most important—and most vexed—topics in the Aegean Bronze Age.* At stake is not only our interpretation of Minoan society and culture but also the impact of Minoan religion on Mycenaean and historical Greek religion. Most studies of Minoan religion rely primarily on archaeological, architectural, and art historical evidence, and they examine the nature of cult equipment, locations of religious activity, and representations of ritual performances (Pötscher 1990; Marinatos 1993). Yet disagreement still exists about whether the Minoans worshipped one or more gods. These studies focus on archaeological and art historical evidence without considering a powerful, if problematic, data set: the textual record of the Late Bronze Age, specifically those documents written in Linear A, the script of the Minoan palaces, and Linear B, the script of the Mycenaean palaces.

Using the Linear A and B texts as evidence for Minoan religion is far from simple. Linear A, which is contemporary with Minoan religious practice, is undeciphered and therefore difficult to use as a source for Minoan religion without making unwarranted assumptions. Linear B, in contrast, is much more straightforward to use, having been deciphered, but it is the script of a later "Mycenaean" or "Mycenaeanizing" period in Cretan prehistory (Driessen and Farnoux, eds., 1997). In the Final Palatial period (ca. 1500–1300 B.C., in ceramic

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terms Late Minoan [LM] II–IIIB early), archaeological and textual evidence strongly argues for the hegemony of Mycenaean Greeks at Knossos and Chania as evidenced by new mainland style burial customs (Preston 1999, 2004) and administrative documents written in Greek with the Linear B script (Popham 1976; Haskell 1997). The Linear B texts largely reflect the needs of Mycenaean administrators, and as such they do not simply reflect Minoan religion. We must somehow "filter" the data from this later period in order to retrieve information about earlier Minoan religious practice. This is not a simple process, as it is generally felt that the break between Neopalatial and Final Palatial Crete is a strong one, both in general cultural terms and with respect to religion, and we should therefore expect a great deal of change from one period to the other (Driessen and Macdonald 1997, 97–98; Rehak and Younger 1998, 164).

The historical context of the Linear B texts of Knossos and Chania is therefore one of rapid change, and we cannot expect the texts to reflect preexisting Minoan beliefs in a straightforward way. Nevertheless, these changes can hardly have entailed complete rejection of Minoan beliefs (Hägg 1997). It would be very surprising indeed if no Minoan divinities whatsoever were preserved in the Linear B texts, given the extensive influence of Minoan palatial culture on Mycenaean elites. For instance, approximately three-quarters of the anthroponyms on the Knossos tablets do not have clear Greek etymologies, and some, if not most, of these names are certainly Minoan (Baumbach 1983, 1992; Melena 1987; Firth 1992–1993). This fact presumably attests to the continued participation of local Minoans in Knossian administration, and we might therefore expect to find evidence for their local gods in the Linear B texts from Crete.

Why Minoan Monotheism/Bitheism?

We begin by examining why some scholars advocate for a monotheistic or bitheistic religious system for Bronze Age Cretans. Sir Arthur Evans, excavator of Knossos and founder of Minoan archaeology, was the first to propose an essentially monotheistic Minoan religious system with a "Great Goddess" and her much less important satellite the "Dying God" (e.g., see Evans 1912, 279–280; 1921–1935, III, 456–457). Evans was openly indebted to and influenced by James Frazer's work (Evans 1921–1935, I, 3 n. 4; Dickinson 1994, 174). Frazer and Evans had inherited the idea of the ancient, primitive Mother Goddess from Bachofen and other 19th-century scholars who were operating under a Romantic paradigm of human evolution (Hutton 1997, 92–93). A generation later, Martin Nilsson argued against Evans, advocating a polytheistic view of Minoan-Mycenaean religion (Nilsson 1950, 288, 292, 389–425). Today, scholars are essentially split into two camps, one that follows Evans (Marinatos 1937; Persson 1942; Alexiou 1958; Warren 1977; Peatfield 1994) and another that follows Nilsson (Marinatos 1993, 2000; Dickinson 1994; Watrous 1995; Goodison and Morris 1998). These camps appear to be in a deadlock, despite more than 100 years of new archaeological finds and intense scholarly debate (Gesell 2004, 143–144).

Evans's influence on modern studies of Cretan religion is still great (Nilsson 1950, 392 n. 3; Rehak and Younger 1998, 141). For example, Evans's work heavily affected the seminal survey of historical Cretan religion by R.F. Willetts, who accepts wholesale Evans's claim that Minoan religion was dominated by a "Great Goddess" indistinguishable from the goddess represented by Neolithic figurines across Europe, Anatolia, and the Near East (Willetts 1962, 54). Willetts's own research was very much a continuation of Evans's, in that he sought to trace the impact of Minoan religion as a system that centered around a "Great Goddess" on later Cretan cults and religious practices (Willetts 1962, 119). Yet much of the evidence mobilized to support his theory consists of later Greek mythological traditions and outmoded concepts of what constitutes "primitive" cognition (Persson 1942; West 1965, 154–155). For example, Willetts asserts that "moon-worship played a conspicuous part in the development of the Minoan goddess" in order to argue that Roman identifications of Britomartis

and Diktynna with the moon derive from Minoan times (Willetts 1962, 181). However, Willetts's evidence for Minoan "moon-worship" consists of general claims to the effect that primitive societies universally think of the moon as stimulating fertility and that there are "special associations of the moon with the physiological functions of women" (Willetts 1962, 78–79).

Ronald Hutton's (1997) historical survey of the Neolithic Great Goddess shows conclusively that the "Mother Goddess" theory originated with (and continued to be supported by) scholars who associated the primitive with nature and irrationality, both of which were gendered female. One of Hutton's examples is the classicist Jane Harrison, who was important in the transmission of the idea of the "Goddess" (Harrison 1903, 1912). She argues that an earlier matriarchal society was replaced by a patriarchal one: "Matriarchy gave to women a false but a magical prestige. With patriarchy came inevitably the facing of a real fact, the fact of the greater natural weakness of women" (Harrison 1903, 285). That the idea of a monotheistic pre-Greek Mother Goddess religion came into being under the influence of Romantic, evolutionary, and sexist theories should give us pause. The theory is evolutionary because it posits a natural and inevitable progression from a primitive, irrational, nature-loving matriarchy to a modern, rational, cultural and industrial patriarchy; it is sexist because it posits essential qualities of masculinity and femininity according to polar oppositions.

Of course, none of this actually refutes the theory that Minoan religion was dominated by a single goddess. But while Evans could be reasonably confident in his reconstruction of Minoan religion, a number of the supports of his argument cannot now bear its weight. Central to Evans's Mother Goddess was the idea that primitive religion generally—and that of Anatolia specifically, whence the Minoan "race" originated—was dominated by a great female nature goddess. However, the empirical basis for this theory and recent resurrections of it, notably by Marija Gimbutas (1974, 1991), have repeatedly come under attack both on theoretical and empirical grounds (Ucko 1968, 409–419; Fleming 1969; and more recently, Talalay 1994; Conkey and Tringham 1995; Meskell 1995; Tringham and Conkey 1998; Lesure 2002). These critiques point out that the Goddess theory rests upon naive interpretations of scanty material evidence. Female figurines are asserted to represent goddesses without argumentation or consideration of other possibilities (Haaland and Haaland 1995). Worse, female figurines are interpreted as goddesses, while similar figures of males, sexless humans, or animals are not remarked upon (Nilsson 1950, 291–292; Ucko 1968, 417; Goodison and Morris 1998, 117). The Minoan archaeological and iconographical evidence for a single goddess has been effectively critiqued by Oliver Dickinson, who argues that the theory of a goddess-centric Minoan religion owes more to Evans's influence than to a critical evaluation of the material (Dickinson 1994). In fact, the subjective approaches so often taken in interpreting Bronze Age iconography have served to feed the fire first started by Evans. For this reason, it is worth reexamining images of the divine during the Late Bronze Age on Crete.

The Iconography of Bronze Age Religion

Studies of Minoan religion largely rely on iconographical evidence. Images on wall paintings, pottery, sarcophagi, and signet rings often depict what are commonly believed to be rituals and divinities, but no clear way to distinguish between individual gods has been established (Evans 1921–1935, II, 277; Marinatos 1993, 149). Indeed, the generic conventions of Minoan art give the impression of much homogeneity in the representation of divinity, assuming that we can even identify divinities in Minoan art (Wedde 1999; Thomas and Wedde 2001). But iconographical evidence must be treated with some caution, since systems of iconography and systems of belief do not necessarily directly correlate. For example, while the religious iconography of the mainland Mycenaeans is dominated by representations of females, Linear B texts make it clear that a number of important male divinities were worshipped (Mylonas 1966, 160). In fact, we may go so far as to suggest that at Pylos, Poseidon

(*po-se-da-o*) was the chief divinity of the state, based on his prominence in the Es series, his probable connection with the Pylian king, and the important position of a shrine of Poseidon (*po-si-da-i-jo*) on the Pylos text Tn 316, not to mention the epic tradition of Poseidon's worship at Pylos in the *Odyssey* (Cook and Palaima 2001). Yet not a single image of Poseidon can be clearly identified in the archaeological record.

Assessing religious iconography during the Mycenaean occupation of the palaces on Crete is more problematic. Beginning in the Final Palatial and continuing into the Postpalatial period, the clearest examples of the iconography of divinity consist of large terracotta statues of goddesses with upraised arms, conventionally called "Minoan Goddesses with Upraised Arms" (or MGUAs; see Alexiou 1958; Rethemiotakis 1997). While some scholars consider MGUAs to be a purely Postpalatial phenomenon (Peatfield 1994), it seems clear that they originated in LM IIIA (Gesell 1985, 41–42; 2004, 134; Rethemiotakis 1997; 1998, 66–68; Rehak and Younger 1998, 164), when Mycenaeans dominated Central and western Crete. Although MGUAs are generally similar in terms of their overall design, variations are common, particularly in the position of the hands and the symbols attached to them, such as snakes, birds, and poppy heads (Gesell 1985, 48–49). Largely on the basis of these figures, a number of scholars have proposed an essentially monotheistic religious system for Late Bronze Age Crete (Gesell 1985, 54). Others, such as Peatfield, have stressed that the use of different symbols attached to the MGUAs reflects an attempt to distinguish each as an individual, that is, as different aspects of a single goddess or different goddesses (Peatfield 1994, 33–35; Rehak and Younger 1998, 171, citing Coldstream 1977; Gesell 1996). However, the symbols attached to MGUAs do not significantly cluster in such a way that we can clearly distinguish between them, as Gesell's careful study shows (Gesell 2004, 144); indeed, some MGUAs bear no symbols at all (Gesell 2004, 140). Gesell attempts to distinguish between "bird goddesses" and "snake goddesses," a division frustrated by the fact that these symbols sometimes appear on the same figure (Gesell 2004, 139–140).

Thus, the iconography of the MGUA does not allow us to clearly distinguish between separate female divinities, nor are we able to interpret the seeming nonexistence of male divine images. However, the Final Palatial origin of the MGUA correlates quite well with the presence of Mycenaeans, when textual evidence clearly attests to a polytheistic religious system. Despite the continued uncertainty over the date(s) of the destruction(s) of Knossos and the chronology of the Linear B tablets (Driessen 2008, 70–72), it seems likely that LM IIIA:2 shines at Knossos and Hagia Triada were built when the Mycenaean administration was still active at Knossos (Gesell 1985, 41–42, 74–75; 2004, 134; on Hagia Triada, see La Rosa 1985, 53–54; Watrous and Blitzer 1997). At Chania, the fragmentary remains of a LM IIIB shrine, which include the face of a half-life-sized ceramic figure and snake tubes, have been found in a pit along with a stirrup jar inscribed in Linear B (Hallager 2001, 178, with references). Contemporary textual evidence at Chania reveals polytheistic religion at this time: KH Gg 5 records religious contributions to (the male divinities) Zeus and Dionysus at a sanctuary of Zeus (Hallager, Valaskis, and Hallager 1992; Hallager and Andreadaki-Vlasaki 1997). At the end of the Bronze Age on Crete, then, we have clear written evidence for a complex polytheistic religious system that is not reflected in the iconography (Goodison and Morris 1998, 131). A parallel scenario is present on the Greek mainland in the Late Bronze Age, where homogeneity in iconography contrasts with definitive textual evidence for polytheism.

For these reasons, we argue that iconography on its own cannot elucidate the nature of Minoan religion. Even if one argues that the MGUA cult was a popular (as opposed to elite) cult in the Final Palatial period (Mersereau 1993, 15; Gesell 2004), an argument problematized by the fact that MGUAs occur at sites important to Mycenaean administration on Crete, the fact remains that the MGUAs, arguably the clearest archaeological and iconographical evidence for a divinity, provide a partial—and for our purposes inadequate—picture of Cretan religion. To help clarify the issue, we now turn to the textual evidence.

Using Linear B as a Source for Minoan Religion

The lack of consensus about fundamental aspects of Minoan religion contrasts with our knowledge of Mycenaean religion, for which we have ample textual evidence in the form of Linear B tablets. Studies of the Mycenaean epigraphic material have identified many theonyms, ritual actions and their material expression, and the names of cult locales. As mentioned above, these texts have been largely ignored in recent debates on Minoan religion (Marinatos 2000), perhaps because the tablets do not describe "pure" Minoan religion (Coldstream 1977, 3; Warren 1987, 40). For instance, the presence of Zeus in the earliest Linear B tablets from Knossos indicates that the Mycenaeans have brought some divinities (or at least theonyms) with them to Crete, for Zeus's name has a clear Indo-European etymology. However, a number of terms in the Linear B tablets at Knossos that have been interpreted as divine names based on their context and analogy with identifiable theonyms have no clear Greek or Indo-European etymology. We propose that some of these divine names may be "Minoan," by which we mean that they relate to the language spoken by the Cretan population prior to LM II and written with the Linear A script. We believe that Minoan theonyms can be identified using the following two criteria: (a) they will be found only on tablets from Crete; and (b) they will exhibit "Minoan" linguistic features. If these criteria are met, a further analysis of the context of these divinities in the Linear B tablets (and their interconnections with each other) may serve to support our identifications.

Theonyms Found Only on Tablets from Crete

A number of divine names are attested in the Linear B tablets at Knossos but are absent from the mainland sites of Pylos, Thebes, Mycenae, and Tiryns. In addition, some of these divinities appear to be important figures in the religion of Mycenaean Knossos, based upon the frequency with which they occur on the tablets and the quantity of offerings made in their honor. Two possible scenarios may explain this phenomenon: (1) these divinities are local gods, whose worship is acknowledged by the Mycenaean administration at Knossos (Hägg 1997; Hiller 1997), or (2) these divinities are absent from the mainland due an accident of preservation, namely the incomplete recovery of Linear B records at these sites. The latter may certainly be claimed for the sites of Mycenae and Tiryns, and perhaps even Thebes, where a much smaller quantity of tablets has been found in comparison to the material from Pylos and Knossos. It may be significant, however, that all of the divinities known from Thebes and Mycenae are also honored at Pylos (see Table 10.1).

Table 10.1 provides all of the identifiable theonyms recorded in the Linear B tablets, based on current scholarly consensus. The status of some divinities, such as *i-pe-me-de-ja*, *di-ri-mi-jo*, and *ti-ri-se-ro-e*, has been interpreted either as divine or semidivine (Mühlestein 1979). In either case, they are clearly recipients of cult and therefore are included in our list. Note that no theonyms are attested in the tablets from Tiryns, and only a few divine names occur on tablets from Mycenae, Thebes, and Chania. A comparison between the divinities at Pylos and Knossos, however, is particularly revealing. A core number of divinities occur at both sites (Potnia, Hermes, Zeus, Diwia, and Poseidon), including all but one of the divinities found at Thebes (Hera). Interestingly, a significant number of divinities recorded at Knossos do not occur on the Pylian tablets, and vice versa, a fact that suggests that there were substantial distinctions in the religions of Crete and the Greek mainland (Hägg 1997; Boëlle 2004). Our explanation of this phenomenon is that at Knossos, local Minoan gods and nonlocal divinities, presumably introduced from the Greek mainland, were given offerings by the palatial administrators.

Names	Greek Mainland			Crete	
	Pylos tablets: 1,026 signs: 28,500	Thebes tablets: 337 signs: 3,733	Mycenae tablets: 68 signs: 1,762	Knossos tablets: 3,369 signs: 26,088	Chania tablets: 5 signs: 34
Potnia	po-ti-ni-ja	po-ti-ni-ja	po-ti-ni-ja	po-ti-ni-ja	
Hermes	e-ma-a_2	e-ma-a_2		e-ma-a_2	
Diwia	di-u-ja / di-wi-ja	di-u-ja / di-wi-ja		di-u-ja / di-wi-ja	
Hera	e-ra	e-ra			
Zeus	di-we / di-wo			di-we / di-wo	di-we / di-wo
Poseidon	po-se-da-o-ne			po-se-da-o-ne	
Dionysus	di-wo-nu-so				di-wo-nu-so
Artemis	a-te-mi-to / a-ti-mi-to				
“Divine Mother”	ma-te-re te-i-ja				
Posidonia	po-si-da-e-ja				
Iphimedia	i-pe-me-de-ja				
Drimios	di-ri-mi-jo				
“Thrice-Hero”	ti-ri-se-ro-e				
	pe-re-*82				
“House-Master” (?)	do-po-ta				
	ma-na-sa				
Enualios	e-nwa-ri-jo(?)			e-nu-wa-ri-jo	
Ares				a-re	
Earth Shaker				e-ne-si-da-o-ne	
Eileithyia				e-re-u-ti-ja	
Erinys				e-ri-nu	
Paion				pa-ja-wo-ne	
				pi-pi-tu-na	
				mba?-ti	
				pa-sa-ja	
				si-ja-ma-to	
				pa-de / pa-ze	
				qe-ra-si-ja	

Table 10.1. List of divinities recorded on Linear B tablets from different sites.

The Presence of “Minoan” Linguistic Features

A number of theonyms that appear only at Knossos are not explicable as Greek and exhibit features that may be identifiable as Minoan. Although Linear A remains undeciphered, it is possible to detect Minoan linguistic features by examining the signs and sign sequences on Linear A tablets, especially in comparison to those on Linear B tablets. This procedure is possible because the Linear B script of the Mycenaeans was adapted from the Linear A syllabary, in much the same way that the later Greek speakers adapted the Phoenician alphabet to write the Greek language (Bennet 2008, 19–22), and the Mycenaeans retained the phonetic values for many of the signs they borrowed from Linear A (Packard 1974; Duhoux 1989; Palaima and Sikkenga 1999). On this basis, we can identify the following features as distinctively Minoan: (1) the dominance of the vowels a, i, and u; (2) initial reduplication; and (3) the presence of distinctive signs or sign sequences present in Linear A but used in Linear B to write non-Greek words. On their own, each of these features can be identified in unproblematically Greek names, but as a group they suggest that *pi-pi-tu-na*, *mba?-ti*, *pa-sa-ja*, *si-ja-ma-to*, *pa-de*, and *qe-ra-si-ja* may be tentatively identified as Minoan theonyms.

By comparing the signs and the frequency of signs used in both Linear A and Linear B, it has been shown that the Minoan language is predominantly composed of syllables ending in the vowels a, i, and u (Packard 1974, 113–115; Duhoux 1989, 72–74; Palaima and Sikkenga 1999, 600). Mycenaean Greek, on the other hand, utilizes more syllables containing the vowels e and o. Based on this information alone, three of the theonyms in question conform to the Minoan trivowel phonology: *pi-pi-tu-na*, *mba?-ti*, and *pa-sa-ja*.

In addition, many words in Linear A exhibit initial reduplication, that is, the first two syllables of a given word are represented by the same sign (Lejeune 1972, 203–209). The divine name *pi-pi-tu-na* conforms well to these linguistic features. It contains only the vowels that are presumed to be Minoan and exhibits initial reduplication (referring in this case to the double *pi-* at the beginning of the word). Though these spelling features, and the fact that this divinity is attested only at Knossos, would be enough to identify *pi-pi-tu-na* as a Minoan divinity, a few additional pieces of evidence may strengthen its Minoan identification. First, the sign sequence *tu-na* is present in Linear A in the term KU-MBA?-NA-TU-NA-TE found on a cylindrical stone cup that was part of a religious assemblage from the Neopalatial town of Apodoulou (Gesell 1985, 69). The *tu-na* ending may also be reflected in a Cretan divinity known in the historical period as Diktynna (Furumark 1953; 1954; Hiller and Panagl 1976, 301). The connection between *pi-pi-tu-na*, KU-MBA?-NA-TU-NA-TE, and Diktynna is admittedly circumstantial, although all three can at least be connected independently with Cretan religion. In any case, the more definitive linguistic features of *pi-pi-tu-na* and the fact that this divinity is honored only at Knossos strongly suggest that *pi-pi-tu-na* represents a Minoan divinity.

The Mycenaeans also retained some Linear A signs representing purely Minoan phonemes. In Linear B, the signs **56* (representing *mba?*), **22* (representing *mbi?*), and **47* (phonetic value unknown) are reserved exclusively for writing non-Greek toponyms, personal names, and technical loan words (Melena 1975, 66; 1987; Palaima and Sikkenga 1999, 602–603). These signs are found predominately in tablets from Knossos and, most importantly, in the divine name *mba?-ti*, attested on KN Fp 13 as a recipient of oil. The use of a purely Minoan phoneme in this divine name strengthens the interpretation of *mba?-ti* as a Minoan theonym.

Three additional theonyms may also show features of the Minoan language: *qe-ra-si-ja*, *pa-de*, and *si-ja-ma-to.* At first glance, these words clearly contain the vowels e and o, which are not among the more common vowels used in the Minoan language. However, some e- and o-syllables do occur in Linear A. The o-series is very infrequent in Linear A, reflected in the fact that the Mycenaeans needed to invent most of their signs for syllables containing o, namely the syllabograms for *do*, *jo*, *mo*, *no*, *qo*, *so*, and *wo* (Palaima and Sikkenga 1999, 604 n. 15). The e-series in Linear A is a bit more common in comparison to the o-series, and consequently fewer e-syllable signs had to be invented for Linear B: only *pe* and *we* (Palaima and Sikkenga 1999, 604 n. 15). For this reason, Linear A may be understood as a four vowel language, in which the fourth vowel is something close to the vowel e. This is a universal feature of four vowel languages; that is, if a language consists of four vowels, these vowels are always a, i, u, and either ə or ɨ (Crothers 1978, 116).

For this reason, we believe that some Minoan divine names may contain the vowel -e. We begin with *qe-ra-si-ja.* First, interpreting *qe-ra-si-ja* as a Greek word has been problematical; several proposals have been made, but none have been universally accepted (Aura Jorro 1993, 195–196). Perhaps this is because the name is in fact Minoan. To support this proposal, it should be noted the sign QE does occur in Linear A. Moreover, the Linear A evidence suggests that the phonetic value of the sign QE is similar to that of QA, since they are sometimes interchangeable (Facchetti 1996). The ending of *qe-ra-si-ja* in *-i-ja* may appear problematic, since this sign sequence is a common adjectival ending in Mycenaean Greek, giving it the appearance of a Greek word. However, the *i-ja* ending is also attested fairly frequently in Linear A (e.g., SE-TO-I-JA on PR Za 1b and SU-KI-RI-TE-I-JA on HT Zb 158b, among others). Therefore, *qe-ra-si-ja*, which at first glance appears deceptively "Greek," does in fact also conform to Minoan spelling conventions.

Another theonym that may be Minoan is *pa-de* (with the variant spelling *pa-ze*), one of the most common divinities in the Knossos tablets and one who lacks an acceptable Greek etymology. Like

qe-ra-si-ja, *pa-de* linguistically does not appear to be Minoan because of the *-de* ending. However, the syllabogram -DE was present among the Linear A signs; that is, *-de* was not one of the signs that the Mycenaeans had to invent for the Linear B script. Contextual evidence may strengthen the identification of *pa-de* as a Minoan divinity. This theonym is found on two tablets from the Room of the Chariot Tablets (RCT) at Knossos in a deposit that contained the earliest collection of Linear B, dating to the beginning of the Mycenaean occupation of Crete (Driessen 1999). These tablets record the name *pa-ze* or **padje*, a variant of *pa-de* (Risch 1987, 291). The fact that the name of this divinity exhibits two different spellings may attest to its non-Greek nature. The form *pa-ze* only occurs in the RCT, a chronologically earlier archive, and *pa-de* only occurs in the later archives, suggesting that the spelling of this name is not static; that is, it is not a stable Greek word. Rather, syllabogram *-ze*, representing the sound *-dje*, retains the palatalization of the consonant, which is a feature of the Minoan language. The change in spelling indicates that the Mycenaean scribes of the RCT chose to be more accurate in rendering this foreign divine name by representing the semiconsonantal glide. Yet over time the spelling, and presumably the pronunciation, was simplified to *pa-de.* In addition, *pa-de* seems to have been a very important divinity at Knossos. This theonym is found on at least eight different tablets (more than any other divinity), on a greater variety of tablets (Fp, Fs, Ga, C, and V), and in two temporal horizons. Given the spelling variations of the name, its frequent occurrences on the Knossos tablets (and not at all in mainland texts), the fact that no convincing Greek reading of *pa-de* exists, and that it conforms to Minoan spelling conventions, it is likely that *pa-de* refers to a Minoan divinity. This divinity was of such importance at Knossos that it was given offerings by the palatial administrators in the earliest recorded tablets from this site.

The name *si-ja-ma-to* may also refer to a Minoan deity. This divine name uses syllables that are predominant in the Minoan language with the exception of the final -o. However, Michel Lejeune demonstrates that there is an alternation between Linear B words ending in -o and Linear A words ending with -u, such as *qa-qa-ro* and QA-QA-RU (Billigmeier 1969, 179; Lejeune 1972, 203–209). This is particularly true of masculine personal names that, in Linear B, exhibit initial reduplication, which Lejeune believes may be Minoan in origin. The o/u alternation can perhaps be explained by the reflex of Greek-speaking Mycenaeans to adapt Minoan personal names to the Greek language by making them conform to the masculine second declension with a nominative ending in -ος. If this interpretation is correct, *si-ja-ma-to* represents a masculine theonym, making it one of the few instances where the gender of a Minoan divinity can be inferred. The syllable *si-* suggests that *si-ja-ma-to* is a loan word, since initial σ- in Proto-Indo-European words would have already changed to a rough breathing in Mycenaean Greek, such as *e-qe-ta* (*hek^{w}etās*) from the Indo-European root **sek^{w}-*. We consequently believe that *si-ja-ma-to* represents a Mycenaean adaptation of a Minoan theonym, since it otherwise conforms to Minoan spelling conventions.

On the basis of the linguistic evidence, at least six divinities—which occur only at the site of Knossos—exhibit features of the Minoan language. These divinities may in fact be Minoan gods and/or goddesses that are being honored by the Mycenaean administrators at Knossos. To support this theory, we now examine the context of these Minoan theonyms within the corpus of Knossos tablets.

The Contextual Evidence for Minoan Divinities

The linguistic evidence for identifying these six theonyms as Minoan is reinforced by a close contextual reading of the tablets. These gods occur on a limited number of tablets and tablet series at Knossos and seem to be closely connected with each other. Many of them can be found in the Knossos Fp series, a unified group of tablets that records offerings of oil to gods, sanctuaries, and religious officials. All of the recipients in the Fp series, which can be definitively identified, are religious in nature. In addition, most of the tablets in the Fp series begin with a month name, often

followed by the Linear B word for month (*me-no*), a characteristic of Linear B tablets that have religious significance (Trümpy 1989). The longest and perhaps most important text in this series is Fp 1, whose text is as follows:

Fp 1

.1 de-u-ki-jo-jo 'me-no'
.2 di-ka-ta-jo / di-we OLE S 1
.3 da-da-re-jo-de OLE S 2
.4 pa-de OLE S 1
.5 pa-si-te-o-i OLE 1
.6 qe-ra-si-ja OLE S 1[
.7 a-mi-ni-so ,/ pa-si-te-o-i S 1[
.8 e-ri-nu , OLE V 3
.9 *47-da-de OLE V 1
.10 a-ne-mo ,/ i-je-re-ja V 4
.11 *vacat*
.12 to-so OLE 3 S 2 V 2

Fp 1 is a page-shaped tablet that records allocations of oil to a number of recipients and concludes with a total quantity of oil recorded on the tablet (*to-so* OLE 3 S 2 V 2). Here, *pa-de* and *qe-ra-si-ja* are included along with a number of known divinities, including "Diktaian Zeus" (*di-ka-ta-jo / di-we*), "Erinys" (*e-ri-nu*), and "all the gods" (*pa-si-te-o-i*). In addition, a number of place names are recorded, indicated by the allative suffix *-de* (*da-da-re-jo-de*, *a-mi-ni-so-de*, and **47-da-de*), and it can be posited that these places are locations of cult. Finally, a cult official, *a-ne-mo-i-je-re-ja*, is also a recipient of oil, presumably on behalf of the deities that she serves.

The divine interpretation of *pa-de*, *qe-ra-si-ja*, and the other divinities discussed in this paper is based on the fact that they are written in entries parallel to identifiable theonyms and to *pa-si-te-o-i* ("all the gods"). Of course, they are also parallel to place names (*a-ni-mi-so* and **47-do*) and a cult official (*a-ne-mo-i-je-re-ja*), but it is unlikely they could be one of these. All of the place names in the Fp series contain the allative suffix *-de*, which is not the case for any of the divinities discussed in this paper, except for *pa-de*. However, this divine name is also attested in the dative case (*pa-de-i*) on Ga 953, showing the *-de* ending is not functioning on Fp 1 as an allative, but is part of the root of the word. It is also unlikely that the words we identify as theonyms are cult officials. The only identifiable cult official in the Fp series is *a-ne-mo-i-je-re-ja* ("the priestess of the winds"), and her offering is always recorded after the offerings to the gods and cult locals. This is not the case for the divinities discussed in this paper, whose offerings are recorded among the other known divinities or with *pa-si-te-o-i*.

The names *pi-pi-tu-na*, *qe-ra-si-ja*, *mba?-ti*, and *si-ja-ma-to* are also found in the Fp series. As a point of comparison, we will examine one of these tablets more closely. Fp 48 records oil offerings made during the month of *wo-de-wi-jo*, whose texts is as follows:

Fp 48

.1 wo-de-wi-jo , 'me-no' / si-ja-ma-to OLE S 2
.2 pa-de , S 1 qe-ra-si-ja S 1 pa-si-te-o-i S 1
.3 a-mi-ni-so-de ,/ pa-si-te-o-i OLE S 1

Unlike Fp 1, the other Fp tablets are small, leaf-shaped tablets and do not contain a total quantity of oil. On this tablet, *si-ja-ma-to*, *pa-de*, and *qe-ra-si-ja* occur alongside *pa-si-te-o-i*, which points to their divine nature.

The use of *pa-si-te-o-i* itself is worth discussing in more detail. Despite its obvious and undisputed Greek etymology, this term occurs only at Knossos. It seems likely that it is used as an all-encompassing term, probably meaning something like "to all the divinities not specifically stated." This kind of terminology is common in ancient documents, especially in prayers and treaties between foreign states. For example, a treaty between the Hittite king Mursilis and Duppi-tessub of Amurru includes a long list invoking various specific gods, especially storm gods from many different cities, as well as more general references to divinities, such as "the Lulahhi gods (and) the Hapiri gods, . . . the gods and goddesses of the Hatti land, the gods and goddesses of the Amurru land, [and] all the olden gods . . ." (Pritchard 1969, 203–205; Beckman 1996, 54–59). Such generalizing terms would have been used in a treaty between warring states for various reasons: it allowed the Hittites to include the gods of the foreign peoples in this treaty (even though they might not have known their specific names), to express their dominance over newly conquered territories, and to insure that the treaty, which all the gods have been called upon to witness, will be honored by both parties. We propose that *pa-si-te-o-i* is

being used in a similar way in the Knossos tablets, that is, as a means to ensure that all local divinities are included in ritual offerings. In addition, we believe it is significant that the term *pa-si-te-o-i* is never used on tablets from the Greek mainland. On the mainland, Mycenaean Greeks always referred to their gods specifically by name on tablets recording ritual offerings. On Crete, however, the use of the term *pa-si-te-o-i* would have been necessary in order to include all of the many local, Minoan divinities. For this reason, we believe that the exclusive use of *pa-si-te-o-i* only on Crete is, in itself, indicative of Minoan polytheism.

Another tablet series on which possible Minoan divinities occur is the Ga series, and it records allocations of different types of spices. Terms *pa-sa-ja* and *pa-de* (in the dative form *pa-de-i*) are found on tablet Ga 953 [+] 955, as shown below. Like the tablets of the Fp series, Ga 953 begins with a month name (*wo-de-wi-jo*), which points to a religious context. On this tablet, *pa-de* receives a quantity of coriander indicated by the ideogram *KO* and an allotment of fennel that is described as *ko-no*, an obscure term whose meaning is unknown. An offering of fennel indicated by the term *ko-no* is placed immediately after the divine name *pa-sa-ja*. However, the tablet is broken at this point, so the amount of fennel allotted to *pa-sa-ja* is unknown. Interestingly, *pa-sa-ja* also occurs on a very fragmentary tablet with the term *si-ja-ma-to.* Unfortunately, this tablet is incomplete, and no additional information is provided. Nonetheless, this broken tablet suggests at the very least that *pa-sa-ja* and *si-ja-ma-to* may function in the same capacity.

Using textual evidence, we have identified six Minoan divinities in the Mycenaean Linear B tablets. In addition, we propose that use of *pa-si-te-o-i* exclusively in the Knossos tablets is further evidence that the Minoans worshipped a number of different divinities. Each of the Minoan divinities identified in this paper appears at least once on the same tablet with the term *pa-si-te-o-i.* Moreover, we believe that *pa-si-te-o-i* may unify these divinities into a cohesive group and reinforce their Minoan identification.

Ga 953 [+] 955

.1 wo-de-ẇị-jo-jo , / me-ṇọ [//] ri-jo-de ,
.2 ko-no , *MA* 3 ko-ṛị [ ] ẹ pa-de-i , ko-no *MA* 2 *KO* Τ 1[
.3a [ ] pa-si-te-o-i ,
.3b pa-sa-ja , ko-no , [ ] a-mi-ni-so-de , *ṂẠ* 2 *KO* Τ 4

Discussion and Conclusions

We realize that, taken individually, the identification of these Minoan divinities may not be completely persuasive to proponents of a monotheistic/bitheistic Minoan religious system. Admittedly, if only one or two theonyms conform to our criteria, our results would be less convincing. Several theonyms corresponded to our criteria, however, and when these theonyms are examined collectively their identification as Minoan deities is further strengthened. The fact that these six deities occur on many of the same tablets demonstrates that they are closely interconnected within the Knossian Linear B corpus (Fig. 10.1). The interconnections between these divinities are indeed striking. Not only do all of these divinities occur with *pa-si-te-o-i*, but they also appear with at least one other Minoan divinity (except for *mba?-ti*).

Further associations can be posited by examining the month names in which these various divinities receive their offerings. Most of the offering tablets are leaf shaped and presumably would have been rewritten onto page-shaped tablets that record the total offerings for each month, such as Fp 1. When different leaf-shaped texts that have the same month name are studied together, the interconnections between the theonyms increase significantly. For example, Fp 6 and Fp 15 were written in the same month, associating *qe-ra-si-ja* and *mba?-ti*, who receive offerings on those texts. In addition, *qe-ra-si-ja*, *pa-sa-ja*, *pa-de*, and

si-ja-ma-to all receive offerings in the month *wo-de-wi-jo* on Ga 953 and Fp 48.

It is also worth noting that divinities from the Greek mainland rarely appear on the same texts as the divinities we identify as Minoan, and when they do, they are clearly local. Thus, "Diktaian Zeus" (*di-ka-ta-jo di-we*) appears on Fp 1 with *pa-si-te-o-i* and *pa-de*, and "*Potnia* of the Labyrinth" (*da-pu*$_2$*-ri-to-jo po-ti-ni-ja*) appears with *pa-si-te-o-i* on Gg 702. Both of these gods have names with clear Indo-European etymologies yet are described with reference to Cretan cult places. It is unclear whether these are Greek divinities established in preexisting Minoan places of worship or conflations of Greek and Minoan divinities. But since each text records a specific occasion when offerings were made, the fact that "Minoanized" Greek gods appear in the same texts with Minoan gods suggests that they are recipients of the same offerings at the same places at the same times.

In conclusion, we believe that the Linear B tablets at Knossos provide important evidence relevant to the debate about Minoan religion; in some ways, it is the best evidence. After all, Linear A, the administrative script of the Minoan palaces, is undeciphered and will likely remain so for the foreseeable future. Minoan iconography is highly formulaic and cannot be used to "read" Minoan religion in a straightforward way, since individual deities cannot be clearly identified, much less distinguished from each other. While Linear B belongs to a period of rapid change associated with the "Mycenaeanization" of Crete, it seems clear that Minoan divinities and cult places were fully incorporated into the religious practices observed by palatial administrators

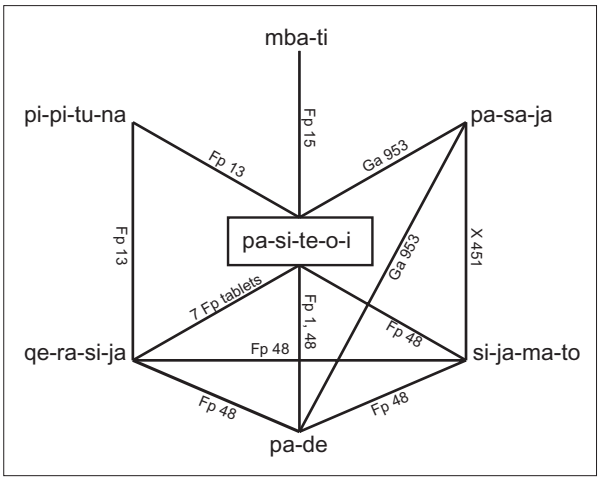

Figure 10.1. Interconnections among hypothesized "Minoan" deities in the Knossos texts.

of Knossos. In some cases, mainland divinities appear to be Minoanized, but the names of Minoan divinities, such as *pi-pi-tu-na*, *mba?-ti*, *pa-sa-ja*, *si-ja-ma-to*, *pa-de*, and *qe-ra-si-ja*, are more often preserved. Furthermore, these divinities are contextually linked in the tablets, suggesting that their cults were associated with each other both spatially and temporally. Finally, the use of *pa-si-te-o-i* suggests that palatial administrators were scrupulous to include all local gods in their ritual offerings. Reading Minoan religion in Mycenaean administrative documents is not simple. But the Linear B evidence, when read with close attention to context, strongly supports a polytheistic model for Minoan religion. The burden of proof, therefore, falls on those who would argue for a monotheistic or bitheistic Minoan religious system.

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CHAPTER

11

Beehives and Bees in Gold Signet Ring Designs

Janice L. Crowley

As my tribute to Cynthia Shelmerdine for her magnificent contribution to Bronze Age studies, I offer an exegesis on a proposal I first made at the Seal Symposium in Marburg in 1999, that certain small shapes and dots in the designs of Late Bronze Age gold signet rings are beehives and bees.* Now, in the study of Aegean glyptic no topic is so hotly debated as the scenes on the gold signet bezels, and this is understandable because, though the scenes are beautifully detailed, their meaning is so hard to discern. In the Aegean, we lack translatable texts with content pertaining to the representations, and, in addition, Aegean aesthetics do not allow the placement of texts beside the pictures as a gloss as is the case in Egyptian and Mesopotamian art. Thus we are given no written clues as to the identity of the protagonists in the seal designs nor any explanation of their accoutrements. The Aegean iconographer may always have to struggle with these lacunae, but there is one set of barriers to understanding that can be removed. I refer to the misreading of the lines and shapes actually carved in the stone seal face or engraved on the metal ring bezel. Ingo Pini drew attention to the need for scrupulous recording of what is actually there in the design and for the careful use of parallels in his keynote address to the EIKON Conference in 1992 in Hobart. His closing admonition is still pertinent: "The two main requisites for iconographical studies are an intimate knowledge of all the existing representations, not only those in glyptic art, and long experience in using this material" (Pini 1992, 18). This paper undertakes just such close and careful scrutiny of the

*I should like to thank Walter Müller and Ingo Pini of *CMS*, Marburg, for permission to use the illustrations from the *CMS* volumes and for all their help to me when studying the seals in Marburg. Any errors in the text are my own.

details of the designs and the use of relevant parallels in order to eliminate confusion about an oval shape and associated modeled dots in the five extant examples.

The Five Signet Ring Designs

For each of the ring designs numbered **1** to **5** (Fig. 11.1), the drawing of the impression of the bezel is shown first as Figure 11.1:**1**a, **2**a, **3**a, **4**a, and **5**a, followed by the enlarged drawing as Figure 11.1:**1**b, **2**b, **3**b, **4**b, and **5**b and then the enlarged impression of the shape and dots as Figure 11.1:**2**c, **3**c, **4**c, and **5**c. Finally, the detail of the actual signet bezel is shown as Figure 11.1:**1**d, **2**d, **3**d, **4**d, and **5**d. Note that in Figure 11.1:**1**d, **2**d, **3**d, **4**d, and **5**d, the image is mirror reverse to the impression made from the bezel in Figure 11.1:**2**c, **3**c, **4**c, and **5**c and the drawing of that impression in Figure 11.1:**1**a, **1**b, **2**a, **2**b, **3**a, **3**b, **4**a, **4**b, **5**a, and **5**b. Except for the Sellopoulo Ring (**1**), all the signets (and the majority of the seals discussed later) are identified by their *Corpus der minoischen und Mykenischen Siegel* (*CMS*) number, and the images of the gold signets **1**, **2**, **4**, and **5** may be supplemented by the color plates in *The Ring of Minos and Gold Minoan Rings* (Dimopoulou and Rethemiotakis 2004, figs. 20, 21, 18, and 15, respectively).

1. Gold signet ring, Sellopoulo Tomb 4, Knossos (Popham, Catling, and Catling 1974, fig. 14:D, pl. 37:a–c); Fig. 11.1.

The drawing of the impression shows two oval shapes that are often confused. The one in the center, where a male figure kneels with his upper body leaning over it, is a rounded and rather fat oval that has some modeling on it to indicate indentations. A similar object is seen in **4**, where the surface detail is indicated by subtle hollows and swellings. Arthur Evans called this shape a baetyl (Evans 1901). It is generally agreed to be a natural rock or boulder, and its depiction in ring designs and the boulders actually found in archaeological sites have been treated fully by Warren (1990, with extensive bibliography). He cautions that there is "no case for calling the Minoan rounded stones baetyls, at least not in the later senses of the word" (Warren 1990, 205–206). In order to avoid confusing associations with later Greek usage, the term baetyl is not used here. The rounded shape is termed a "boulder" with the iconographic unit named "kneeling the boulder," and the human involved is called the "boulder kneeler," who is a man here, in **4**, and in the Archanes Cult Ring (Dimopoulou and Rethemiotakis 2004, fig. 19), or a woman as in other examples (e.g., Sakellerakis and Kenna, eds., 1969, 310 [*CMS* IV, no. 278]; Pini, ed., 1988, 42–43 [*CMS* XI, no. 29]; Müller and Pini, eds., 1998, 10 [*CMS* II, 7, no. 6]; 1999, 11 [*CMS* II, 6, no. 4]). In the far right of the design is a tree growing from rocky ground, its foliage bending over the boulder kneeler (and thus making a virtue of the necessity of accommodating the curving bezel shape). Beneath the tree there are flowers blooming, their details rendered mostly by dots.

The other oval shape seen in the far left is quite different. It is a more slender, elongated oval, quite smooth and regular in shape as if man-made and not natural stone. Seen in the two enlargements in Figure 11.1:**1**d, the shape is clear, as is the flat top that looks like a lid on an angle. There is a carefully delineated vertical line that runs the length of the shape. The enlargement also shows the many dots surrounding the upper part of the shape, clearly modeled and randomly scattered around, with perhaps some concentration near the top. These dots are not mentioned in the original publication of the ring, J 8 from Tomb 4 (Popham, Catling, and Catling 1974, 217–219, 223, fig. 14:D, pl. 37:a–c). The shape and associated dots in the far left are balanced on the right of the composition by the tree growing from rocky ground where flowers are blooming. These iconographic units are linked by their being the frames for the actions of the protagonists in the scene, the boulder kneeler and the swooping bird, both of whom act out their ritual beneath a hovering symbol.

2. Gold signet ring, Vapheio tholos (Sakellariou, ed., 1964, 253 [*CMS* I, no. 219]); Fig. 11.1.

The design here has the shape in the far left with dots randomly marked around the top section. This time the shape and the dots are located beneath a tree that grows from rocky ground. The foliage of the tree clearly ends in little dots, which possibly indicate flowers, a detail seen in other trees (e.g., Sakellariou, ed., 1964, 142–143 [*CMS* I, no. 126]; Platon and Pini, eds., 1984, 298–299 [*CMS* II, 3, no. 252], 360 [*CMS* II, 3, no. 305]) and on the Poros Ring (Dimopoulou and Rethemiotakis 2000). The tree bends over, being pulled down by a man stepping up on more rocky ground. This iconographic unit may be termed "pulling the tree," and the human involved, the "tree puller," is a man here, in another instance (Sakellariou, ed., 1964, 142–143 [*CMS* I, no. 126]), in the Archanes Cult Ring, and in the Poros Ring. A woman is depicted in **4** here and in another example (Kenna, ed., 1972, 356 [*CMS* XII, no. 264]), and both a man and a woman are shown in the Ring of Minos (Dimopoulou and Rethemiotakis 2004). The

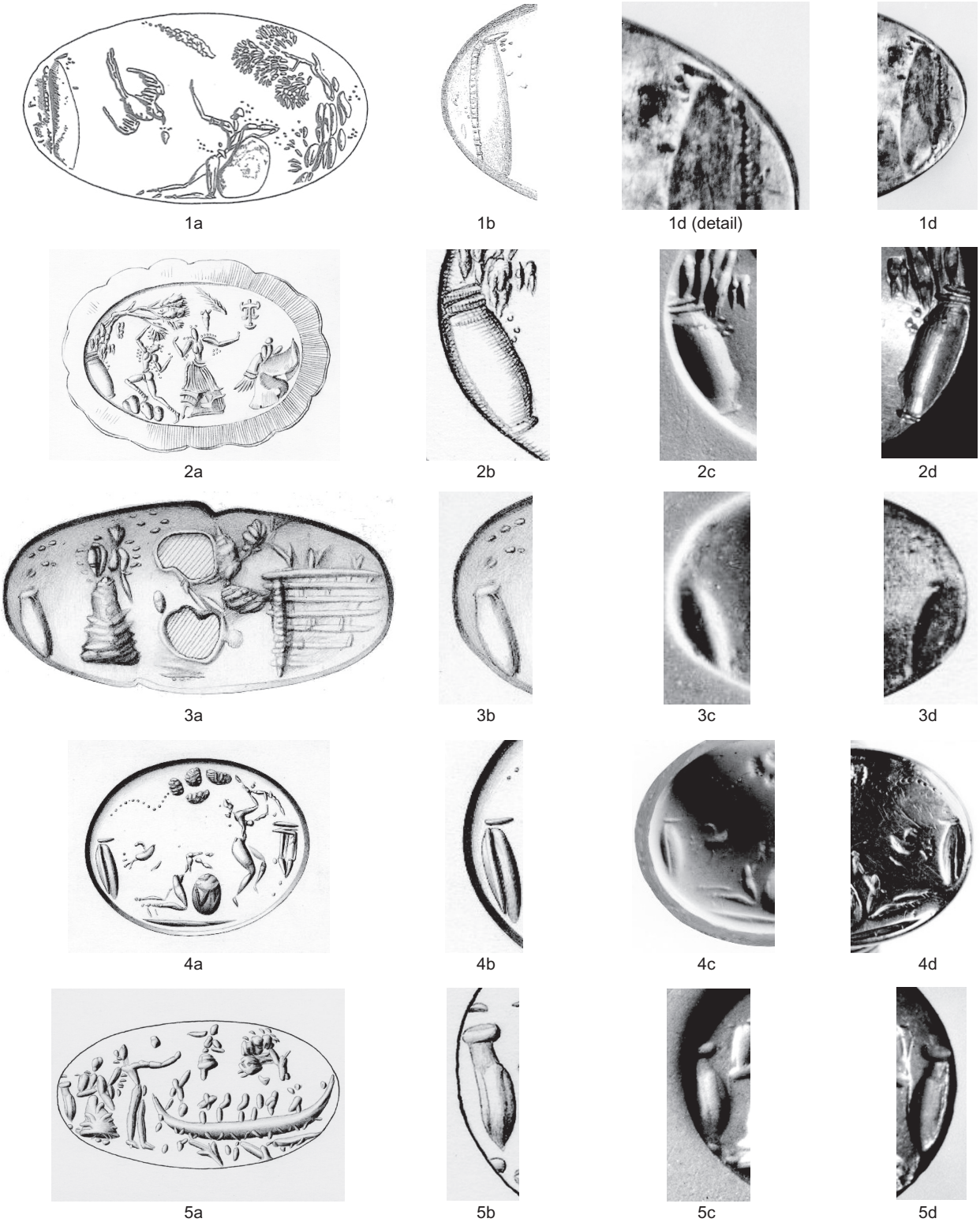

Figure 11.1. Bees and beehives: (**1**) Sellopoulo Ring, gold signet ring from Sellopoulo Tomb 4, Knossos (Popham, Catling, and Catling 1974, fig. 14:D, pl. 37:a–c); (**2**) gold signet ring from the Vapheio tholos (*CMS* I, no. 219 [Sakellariou, ed., 1964, 253]); (**3**) bronze signet ring from Kato Gypsades (*CMS* II, 3, no. 15 [Platon and Pini, eds., 1984, 18]); (**4**) gold signet ring from the Tombe dei Nobili, Kalyvia (*CMS* II, 3, no. 114 [Platon and Pini, eds., 1984, 132]); (**5**) gold signet ring, acquired, Evans Collection (*CMS* VI, 2, no. 280 [Hughes-Brock and Boardman 2009, 456–457]).

enlargements again clearly show the elongated oval shape as being quite smooth. The top is flat and consists of two bands, and this time the base is shown and it is also flat. All in all this shape looks like a pithos. Again the dots are clustered around the top of the shape. The detail of the ring bezel in Figure 11.1:**2**d shows how carefully both shape and dots are delineated.

3. Bronze signet ring, Kato Gypsades (Platon and Pini, eds., 1984, 18 [*CMS* II, 3, no. 15]); Fig. 11.1.

The shape is again in the far left of the design, but this time the dots are randomly placed above it and also above the center of the design between the woman and the tree growing above and over the ashlar wall on the right. This ashlar tree shrine is seen in other seal designs (e.g., Pini, ed., 1988, 41 [*CMS* XI, no. 28]; Hughes-Brock and Boardman 2009, 458–460 [*CMS* VI, 1, no. 281]), as well as on the Archanes, Poros, and Minos rings. Here the tree bends toward the woman and the dots. There is yet another set of dots of the same size and shape; these are not randomly placed but are arranged to follow the shape of the woman's upper body. These should be read as an abbreviated rendering of details of her costume and/or braided hair, as in other seal designs like the Isopata Ring (Platon and Pini, eds., 1984, 61–62 [*CMS* II, 3, no. 51]). There is no need to see these particular dots as associated with the shape on the left, hovering around in a "cloud" about the woman in the center on their way to the tree on the right, though they could be in this instance.

4. Gold signet ring, Tombe dei Nobili, Kalyvia (Platon and Pini, eds., 1984, 132 [*CMS* II, 3, no. 114]); Fig. 11.1.

The far left curve of the bezel holds the characteristic elongated oval shape, which has again been called a pithos with no note of the associated dots (Marinatos 1990, 81). The shape has the expected flat top, and there is a vertical line for the full height of the shape. In both the detail of the protruding top and the vertical line of this rendition, it resembles the shape in **1**. The associated dots this time are organized in a wavy line that goes from the shape to the foliage of the tree growing in a tree shrine in the far right of the design. The tree is being pulled down by a female tree puller, and its foliage bends over a boulder kneeler with his boulder. The wavy line of dots completes this arching cover to the protagonists below, the boulder kneeler and a swooping bird.

5. Gold signet ring, acquired (Hughes-Brock and Boardman 2009, 456–457 [*CMS* VI, 2, no. 280]); Fig. 11.1.

The oval shape is again in the far left of the design and has the expected profile and smooth surface, flat top and base. This time there is only one dot, a large one carefully modeled and seen clearly on the bezel surface in Figure 11.1:**5**d, but not reproduced well in the drawing. A tree is again seen on the opposite side of the design, and the marks at the ends of the branches may be a summary representation of the flowers seen in the dots in other examples. The tree lacks a shrine or rocky ground as its base because a ship is in the way. Indeed, the whole design is rather cluttered, partly because of the space taken to depict a ship and its crew, but also because the couple who greet the epiphany figure also need extended room.

Discussion

From the above careful scrutiny, some important points emerge about the oval shape and associated dots. The shape is clearly differentiated from the boulder, both in its oval configuration and lack of surface markings or indentations, and in its placement within the bezel design. The shape is always found in the far left of the design. It is an elongated oval, placed not really upright but rather leaning somewhat to the left into the bezel edge. The shape is always of regular form, its main section swelling and then terminating in a flat top and, where shown, a flat base. These features are consistent with a man-made object, and a ceramic item is most likely. It is, after all, very like a pithos, as many have commented. However, it does not always stand up straight as one expects of a storage container. When the exterior ridge is shown, it goes from top to bottom and may indicate some strapping to facilitate moving the shape.

The dots associated with the shape, seen as small hollows in the seal face and small bumps in the impression, cluster around the top and then spread out beyond it. In two cases, **3** and **4**, the spread is directional to the foliage of a tree placed on the far right of the design. In two other cases, **1** and **5**, there is a tree placed on the far right of the design. In one case, **2**, the tree, the shape, and the dots are brought together in one grouping on the far left of the design where the shape is placed directly under the tree so that the dots can rise up to it. In **1**, flowers grow below the tree, and in **2** and **5** there are indications that the tree is flowering. In each of the five examples, the tree is integral to the design and is closely related to the shape and its associated dots.

All of the above observations support the argument that the shape is a clay beehive, that the dots are bees emanating from it, and that the tree is an integral part of this meaningful grouping, as the bees can be seen flying out toward it to gather pollen.

Is this a feasible interpretation of the shape and the dots? Considering the importance of honey as the valued sweetener of the ancient world, the answer must be "yes." There is a substantial amount of

evidence for Aegean apiculture in the archaeological record. Melas observes that "the use of pottery beehives enjoyed a wide distribution from at least as early as the New Palace period in Crete . . . [and] . . . continued to be used in the Mycenaean period and into historical times, and as late as a few years ago in Greece . . ." (Melas 1999, 485). His examples of Minoan beehives, mostly from country areas, are all of the conical variety meant to stand upright (Melas 1999, 486–488, nos. CVII b–f, CVIII a, c). Haralambos Harissis and Anastasios Harissis (2009, 18–37) also document these upright ceramic beehives in their helpful and extensive survey of beekeeping paraphernalia, beehives, and smoking pots. The images in the signet designs, however, would be more compatible with the larger ceramic beehives, which were elongated tubular vessels, closed at one end and with a disk-like lid at the other, and meant to be laid on their side. This type is known from later Greek and Greco-Roman examples (Melas 1999, 486) and from the traditional horizontal beehives of Crete (Harissis and Harissis, 2009, 18–20, fig. 4). The textual evidence for apiculture is also extensive. Linear B texts not only reference honey (*me-ri*, μέλι) but also speak of workers with honey and honey offerings to the gods (Melas 1999, 489–490; Harissis and Harissis 2009, 13–17). It would seem appropriate then, if bees, beehives, and honey appeared in Aegean art.

Bee Close-ups, Honey, and More Dots

Images of insects have previously been identified as bees both in the hieroglyphic texts and in separate representations. Examples of these include **6**–**14** illustrated in Figure 11.2.

6. Bee hieroglyph L 2 (Gardiner 1957, 477) and syllabogram CHIC 020; Fig. 11.2.

The first image (Fig. 11.2:**6**, left) is the Egyptian hieroglyph in the shape of the bee, listed as L 2 in the standard text, *Egyptian Grammar*, under Section L Invertebrata and Lesser Animals, and within that, 2, bee (Gardiner 1957, 477). The second image (Fig. 11.2:**6**, right) presents one of the two drawings for the Minoan syllabogram identified in the standard text as CHIC 020, since the author does not assign meaning to the signs but simply allocates a number (Olivier and Godart 1996, 17 for the tableau des signes standardisés, 393 for the examples). The closeness of the two images has been noted since the Minoan hieroglyphs were first studied (Evans 1909, 212–213, 240; Matz 1928, 120). Both the Egyptian and Minoan depictions show the insect in profile, its head with pointed mouth, a rounded thorax from which two legs reach out in the front, two narrow wings raised at the back (the syllabogram drawing has them overlapped), and an abdomen in a swelling shape that reduces at the end. The Egyptian image also shows two antennae standing up from the head that are not included in the Minoan image. Antennae, however, can clearly be seen in the Minoan script, as illustrated by **9** to **11** (Fig. 11.2).

The closeness of the iconographic detail suggests that the same insect was chosen for the hieroglyphic sign in each country at a time of established connections between Crete and Egypt (Cline and Harris-Cline, eds., 1998; Phillips 2008). It is not possible to know if the same sound or the same meaning is represented in both cases, as Fred Woudhuizen argues, although he correctly notes the association of the bee image with plants and flowers (Woudhuizen 1997, 105–108). When looking for bee-image antecedents in Aegean glyptic, three sealings from the House of the Tiles at Early Helladic II Lerna in the Argolid are often cited as evidence (Pini, ed., 1975, 52, 90 [*CMS* V, 1, nos. 57, 58, 115]). All are insects shown in plan view, but only the last example has legs, antennae, and wings to support a bee designation, and in any case these early sealings do not seem to have been followed by derivative designs. It would also appear that there are no antecedents in earlier glyptic for the other two flying insects featured in Late Minoan iconography, the butterfly and the dragonfly (Krzyszkowska 2005, 90). These are regularly shown in plan view as if being seen from above when flying or alighting (e.g., Sakellariou, ed., 1964, 306 [*CMS* I, no. 270]; Kenna, ed., 1966, 213 [*CMS* VIII, no. 152]; 1967, 108 [*CMS* VII, no. 71]; Pini, ed., 1975, 551–552 [*CMS* V, 2, no. 677b, c]; 1992, 172, 191 [*CMS* V, Suppl. 1A, nos. 169, 188]; Platon and Pini, eds., 1984, 56, 278 [*CMS* II, 3, nos. 46, 237]; Müller and Pini, eds., 1998, 10 [*CMS* II, 7, no. 6]; 1999, 139 [*CMS* II, 6, no. 127]), and only occasionally in profile (Müller and Pini, eds., 1999, 11, 140 [*CMS* II, 6, nos. 4, 128]), as well as on the Archanes Cult Ring. Perhaps the existence of an Egyptian model is the reason why the bee appears earlier than the other insects and is always shown in profile in Minoan representations.

7. Gold pendant from Malia; Fig. 11.2.

This famous piece comes from the Protopalatial period, the same period that saw the acceptance of some eastern motifs and the floruit of the hieroglyphic texts

Figure 11.2. Bees and honey: (**6**) bee images, hieroglyph (Gardiner 1957, 477, L 2) and syllabogram CHIC 020; (**7**) gold pendant from Malia; (**8**) clay sealing from Knossos, location unknown (*CMS* II, 8.1, no. 149 [Gill, Müller, and Pini, eds., 2002, 289]); (**9**) clay sealing from the Hieroglyphic Deposit, Knossos (*CMS* II, 8.1, no. 80 [Gill, Müller, and Pini, eds., 2002, 223]); (**10**) clay sealing from the Hieroglyphic Deposit, Knossos (*CMS* II, 8.1, no. 62 [Gill, Müller, and Pini, eds., 2002, 205]); (**11**) chalcedony four-sided prism, gift of Richard Seager (*CMS* XII, no. 109a ([Kenna, ed., 1972, 181]); (**12**) green steatite three-sided prism, found at Krassi (*CMS* II, 2, no. 225b [Platon, Pini, and Salies, eds., 1977, 312–313]); (**13**) clay sealing from Room 25, Palace, Phaistos (*CMS* II, 5, no. 314 [Pini, ed., 1970, 273]); (**14**) dark brown steatite three-sided prism, acquired (*CMS* V, Suppl. 3.1, no. 148b [Pini, ed., 2004, 255]); (**15**) clay sealing from Kastelli, Katre St.10, Chania (*CMS* V, Suppl. 1A, no. 170 [Pini, ed., 1992, 173]); (**16**) black jasper lentoid, acquired (*CMS* VII, no. 70 [Kenna, ed., 1967, 108]); (**17**) gold signet ring from Chamber Tomb 7, Aidonia (*CMS* V, Suppl. 1B, no. 114 [Pini, ed., 1993, 116–117]); (**18**) wine-red steatite mold from the West Cemetery, Eleusis (*CMS* V, 2, no. 422 [Pini, ed., 1975, 321–322]); (**19**) drawing of a design in the mold in **18** (*CMS* V, 2, no. 422b [Pini, ed., 1975, 322]); (**20**) drawing of a design in the mold in **18** (*CMS* V, 2, no. 422a [Pini, ed., 1975, 322]).

(Krzyszkowska 2005, 32, 95–98). Though some have seen it as depicting wasps, most interpret the design as two bees about a honeycomb (or drop of honey). The bees extend their two legs to hold the honeycomb, which is shown as a round shape, marvelously worked in the granulation technique. There is also a small gold "ball" held by the mouths of the two bees and another enclosed in a "cage" above their heads, the "bars" of the cage perhaps representing extended antennae.

8. Clay sealing, Knossos, location unknown (Gill, Müller, and Pini, eds., 2002, 289 [*CMS* II, 8.1, no. 149]); Fig. 11.2.

In a design that is a close parallel to the Malia pendant, three bees circle a central honeycomb, each with legs extended to hold it. There are also three dots, each with a number of small protrusions. The *CMS* description notes "Bienen," "ein rundes scheibenförmiges Element," and "Sternmotiv."

9. Clay sealing, Hieroglyphic Deposit, Knossos (Gill, Müller, and Pini, eds., 2002, 223 [*CMS* II, 8.1, no. 80]); Fig. 11.2.

In this text example, the CHIC 020 bee at the top is shown in characteristic detail: head with double antennae, rounded thorax with two legs and two wings, and pear-shaped abdomen. There is also a round eye. The two legs again act rather like arms with hands that hold a "ball" as if working a honeycomb. The *CMS* description notes "Biene" and "Punkt."

10. Clay sealing, Hieroglyphic Deposit, Knossos (Gill, Müller, and Pini, eds., 2002, 205 [*CMS* II, 8.1, no. 62]); Fig. 11.2.

In this text example, the CHIC 020 bee in the center is of the standard shape and also has a round eye. A triple-bud flower shape is above its back, and there are four dots near its abdomen. *CMS* notes "Lilienblüte" and "Punkte." Dots below the bee are also seen in the Knossos inscription HM 1270 (Olivier and Godart 1996, 92, no. 039). The link between the bee, the dots, and the triple bud may also be intended when only the dots and the triple bud are shown (e.g., Kenna, ed., 1972, 197–198 [*CMS* XII, no. 117b]; Platon, Pini, and Salies, eds., 1977, 485–486 [*CMS* II, 2, no. 316c]; Sakellarakis, ed., 1982, 126–127 [*CMS* I, Suppl., no. 73d]; Müller and Pini, eds., 2007, 382–383 [*CMS* III, 1, no. 229c]).

11. Chalcedony four-sided prism, gift of Richard Seager (Kenna, ed., 1972, 181 [*CMS* XII, no. 109a]); Fig. 11.2.

The CHIC 020 bee in this text example again has the standard shape, but this time the five surrounding dots each have appendages. There are two pointed flanges emanating from each dot, looking rather like little wings. A very similar bee is found on another example (Kenna, ed., 1972, 197–198 [*CMS* XII, no. 117c]), and it is accompanied by a plain dot at the edge of the design (not shown in the drawing). Dots with appendages are also found in several other examples (e.g., Sakellarakis and Kenna, eds., 1969, 186 [*CMS* IV, no. 156c]; Kenna, ed., 1972, 187 [*CMS* XII, no. 112a]; Pini, ed., 1988, 22–23 [*CMS* XI, no. 12b]; Hughes-Brock and Boardman 2009, 232, 291 [*CMS* VI, 1, nos. 100c, 146]).

12. Green steatite three-sided prism, found at Krassi (Platon, Pini, and Salies, eds., 1977, 312–313 [*CMS* II, 2 no. 225b]); Fig. 11.2.

A rather sketchily outlined bee is paired with a branch. This may be one of the earliest bee representations, along with another example (Platon, ed., 1969, 181 [*CMS* II, 1, no. 159]), and probably dates to Early Minoan II–Middle Minoan (MM) IA (Yule 1980, 134).

13. Clay sealing, Room 25, Palace, Phaistos (Pini, ed., 1970, 273 [*CMS* II, 5, no. 314]); Fig. 11.2.

This bee has curved antennae and stripes across the abdomen. It is placed beside two triple-bud flowers. Another bee from Phaistos (Pini, ed., 1970, 274 [*CMS* II, 5, no. 315]) has a plain abdomen and a curl above the back that looks like misplaced antennae. A second sealing (Pini, ed., 1970, 275 [*CMS* II, 5, no. 316]) may also show a bee. These MM II sealings from the palace excavations show that the bee is established in the iconography well before the butterfly and dragonfly.

14. Dark brown steatite three-sided prism, acquired (Pini, ed., 2004, 255 [*CMS* V, Suppl. 3.1, no. 148b]); Fig. 11.2.

The full bee shown on the left has all the diagnostic features. Another seal in rock crystal, acquired and so also undated, carries a profile bee (Pini, ed., 1988, 277 [*CMS* XI, no. 267]).

Discussion

What can these examples of bee close-ups and their associations reveal? The Aegean bee is rendered in a distinctly different manner from the Aegean butterfly and dragonfly. Not only is it shown in profile, as against the usually depicted plan view of the other two, but it also has bodily details that stress its work in the pointed mouth and "arms" that can hold a honeycomb. When it is the main subject of a seal design, it is shown with floral/foliate motifs. The textual evidence shows that the Minoan bee syllabogram is very close in its diagnostic details to the Egyptian bee hieroglyph and that in many instances it is accompanied by dots and sometimes by a triple-bud flower. Some of these dots are meant to be honeycombs when they are held, but the others that are randomly placed, especially those with small protrusions, are more enigmatic. I propose that these dots are other bees swarming around, reduced to a "shorthand" rendition of dots or dots with flanges because of the restricted space available in the design. If this is so, then there is a direct parallel with the dots in the

gold ring designs. In the complex scenes involving human activities, the exigencies of space and proportion require the bee to be reduced to the size of a dot. It is then at the appropriate size in relation to the beehive and to the human figures. (Is it facetious to comment that modern cartoonists, who struggle with the same artistic problem of conveying meaning within a very small compass, regularly show bees as a wavy line of dots?) The association of the bee with floral/foliate symbols is also echoed in the ring designs. There, a tree must be in the composition, and either the bees move toward the foliage of the tree arching over the protagonists below or the beehive and the tree on opposite sides of the composition frame the activities in the middle. With the bee close-ups or dot bees within text compositions, the branch or triple-bud flower is "shorthand" for the blossom tree and flowers on the ground in the ring designs. All these correspondences support the initial identification of the shape as a beehive and the dots as bees.

Other Seal Designs

The bee/beehive interpretation may now be able to help with some rather curious details in other seal designs, such as **15**–**20**, illustrated in Figure 11.2.

15. Clay sealing, Kastelli, Katre St.10, Chania (Pini, ed., 1992, 173 [*CMS* V, Suppl. 1A, no. 170]); Fig. 11.2.

The insect here is shown in the characteristic pose of the butterfly/dragonfly. It has the wings and abdomen of a butterfly, but straight antennae and two extra-narrow wings like a bee. Composite flowers are known in Minoan art, and we now appear to have a composite butterfly-bee. Such a composite may also be the explanation for the insect shape (Kenna, ed., 1967, 124 [*CMS* VII, no. 86]).

16. Black jasper lentoid, acquired (Kenna, ed., 1967, 108 [*CMS* VII, no. 70]); Fig 11.2.

This insect also appears to be a composite. It has the pose, wings, and abdomen of a dragonfly, but the legs, though too many, are reminiscent of the bee, and it is moving toward leaves or flowers.

17. Gold signet ring, Chamber Tomb 7, Aidonia (Pini, ed., 1993, 116–117 [*CMS* V, Suppl. 1B, no. 114]); Fig. 11.2.

This design has a wavy line made of zigzags above left. It looks at first like the skyline (heaven line, Himmelsbereich) that is seen in the above sections of cult scene rings. It sometimes subtends hovering figures (e.g., Platon and Pini, eds., 1984, 61–62 [*CMS* II, 3, no. 51]; see also the Poros Ring). It also subtends celestial symbols (e.g., Sakellariou, ed., 1964, 202–203 [*CMS* I, no. 179]; Pini, ed., 1975, 154 [*CMS* V, 1, no. 199]), or it gives an arching cover to the figures below (e.g., Dakoronia, Deger-Jalkotzy, and Sakellariou, eds., 1996, 80–81 [*CMS* V, Suppl. 2, no. 106]; Müller and Pini, eds., 1999, 7–8 [*CMS* II, 6, no. 1]). In the Aidonia Ring, the wavy line does not subtend anything, though it does curve above the figures below. However, it links the left side of the design with the tree growing beside a lattice shrine on the right, just as one would expect a line of bees to do, but there is no beehive on the left for the bees to leave. In spite of this omission, the best interpretation may well be a beeline rather than a skyline—or some conflation of the two, perhaps by an artist who did not know the full significance of the two iconographies.

18. Wine-red steatite mold, West Cemetery, Eleusis (Pini, ed., 1975, 321–322 [*CMS* V, 2, no. 422]); Fig. 11.2.

There are two molds in the block, and while the designs at first glance seem to bear no relationship to each other, a closer look with bees and beehives in mind proves informative.

19. Drawing of design in the mold in **18**, above (Pini, ed., 1975, 322 [*CMS* V, 2, no. 422b]); Fig. 11.2.

On the left of the design there is a group of at least four smooth, swelling shapes with wide flat tops standing on rocky ground. They are enclosed by two curving fronds similar to the two growing up from the base, and they echo the flowers held aloft by the woman on the right. Note the triple-bud tops. The shapes fit the parameters for beehives, and they are in the expected place in the left bezel edge. The fronds and flowers, examples of which we have seen in the close-up bee designs, are found here with the foliate symbols taking the place of the full tree in the other ring designs. But where are the bees?

20. Drawing of design in the mold in **18** (Pini, ed., 1975, 322 [*CMS* V, 2, no. 422a]); Fig. 11.2.

The second design shows a large and a small bird, foliate symbols (even an incipient triple-bud behind the large bird's legs), and randomly placed dots. Are the dots here the bees that are missing from the beehives in the other design? It would make sense to have the birds, bees, and flowers together to complement the scene of women attending the beehives. It would also mean that we have a design pair on the mold.

Discussion

Are there any more seals reflecting the practice of apiculture in the Late Bronze Age Aegean? In Part 2 of their apiculture book, Harissis and Harissis (2009, 39–72, figs. 31–32, 34, 36–37) illustrate a number of seal designs that they believe depict bees in a naturalistic way or stylized as a symbol. I welcome their corroboration that the Vapheio and Kato Gypsades rings show ceramic beehives with bees (their figs. 31:2, 17; 47:1, 2 and my signets **2** and **3**). However, I would urge caution with the other interpretations offered for Minoan symbols, since many of the iconographic details used to argue for the identifications are also open to other readings when all the seal designs are taken into account. In particular, the interpretation of dots as always being bees is not correct. As argued above in the discussion of signets **2** and **3**, the dots are sometimes bees, but at other times they could be flowers growing on the branches or up from the ground, or, if differently placed, they may be abbreviated renderings of the costume or long hair of the human figures. I have accepted that the tree growing from rocky ground and the tree shrine are intimately connected with the beehive and bees, but I do not find it necessary to turn all "altars" into beehives or the boulder (baetyl) into the double stomach of a cow as a sack for capturing bee swarms. This is not the place to discuss all the new interpretations proposed in Part 2, but suffice it to say that in assessing their validity the test must always be that the interpretations are in accordance with the full glyptic repertoire.

Conclusion

Returning to the designs on the five signet rings, the interpretation of the shapes as beehives and the dots as bees seems quite reasonable. It takes account of all the fine glyptic detail and explains the iconographic features that are not accounted for by previous interpretations. It complements the close-up versions of bees and their associated dots in the syllabograms and other artistic representations, and it can also illuminate some curious representations in other seals. It recognizes in art the importance of apiculture in the Aegean Bronze Age, thus paralleling the evidence from archaeological remains and the texts. However, the interpretation does more. It places beehives and bees within the realm of ritual as depicted on one of the most prestigious of Minoan artifacts, the gold signet ring. The complex scenes on these ring bezels are composed of memorable units, the icons, which proffer the maximum meaning with the most clarity in the confined space available (Crowley 2010). The image of the beehive with bees is one such icon, and it works with the tree images to which it is so closely connected, setting the scene for ritual activity rendered by five of the most important icons in Minoan iconography: kneeling the boulder (**1**, **4**), pulling the tree (**2**, **4**), the bird as flying messenger (**1**, **4**), serving at the shrine (**3**), and greeting the deity appearing on high (**5**) (Crowley 2013). Although the full meaning of these icons escapes us, it is clear that the appropriate place for Minoans to worship their gods is the outdoors, preferably in a flowering glade. The presence of bees and beehives adds another dimension to this celebration of the fecundity of nature. Now the glade hums with the sound of bees gathering their pollen, and the trees are heavy with the promise of a good harvest as the humans perform their acts of worship, every detail in the scene speaking of the intimate relationship that mortals have with the natural world around them and with the deities that control it.

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CHAPTER

12

Gifts to the Goddesses: Pylian Perfumed Olive Oil Abroad?

Lisa M. Bendall

One of the many contributions of Cynthia Shelmerdine's classic study of the perfume industry at Late Bronze Age Pylos was the demonstration that the palace produced sufficient amounts of this commodity to make it likely that some of it was being traded abroad (Shelmerdine 1985, 151–152).* This point is now generally accepted, even if specific proof remains elusive. Direct evidence for trade is notoriously lacking in the Linear B documentation (Shelmerdine 1998, 291; Bendall

*I am grateful for this opportunity to make a small offering to Cynthia Shelmerdine, whose work has been an inspiration to me since I first studied Linear B as an undergraduate. She set the type of standard I wished to emulate, however imperfectly I have achieved that goal. I was honored that she agreed to be External Examiner for my doctoral thesis (Cambridge, 2001) and well remember her kindness to me in the *viva voce*, a kindness shown uniformly both before and since. Her generosity and encouragement of younger scholars are legendary, and her combination of kind appraisal with demanding academic standards is valued and respected by all who know her. I am grateful to the editors for their invitation to contribute to this volume, to Sarah Morris for raising the issue of large offerings with me at the *Potnia* conference, and to John Killen for many discussions of olive oil and all else. I am grateful to Laura Preston, Silvia Ferrara, Isabella Image, Christoph Bachhuber, Amy Bogaard, R.D. Bendall, Sila Vortuba, and the anonymous reviewers for comments, and to Ian Rutherford, Philipp Stockhammer, and Ian Whitbread for references. None of the above are responsible for any omissions or errors, the fault for which is entirely my own. This article was submitted in 2010 and literature from that year on is only sporadically noted. No need for changes emerged except to note that in light of Ilya Yakubovich's 2010 references to "Luwian," speakers in western Anatolia might be revised to "Luvic," but the point remains somewhat controversial and in any case does not affect the present argument.

2007, 270–274, 279–282), and while archaeological evidence for the export of olive oil exists in the numerous stirrup jars found throughout the Aegean and Near East, many demonstrably of nonlocal origin(s) (Asaro and Perlman 1973; Catling et al. 1980; Leonard 1994; Day and Haskell 1995; Shelmerdine 1998, 292; van Wijngaarden 2002, 40, 132; Bell 2006, 35, 46, 48, 50), specifically Messenian pottery has rarely been identified (in general Matson 1972; Jones 1986, 215–224; van Wijngaarden 1999, 27; mentions of Messenian wares abroad include Taylour 1958, 21, 23, 51; Watrous 1992, 155–156, fig. 69:1422; Gunneweg and Michel 1999, 993–994; Zuckerman et al. 2010, 411–412). The present paper seeks to add a token to the discussion by proposing that there may after all exist some circumstantial evidence in the Linear B documents of Pylos to suggest, if not exactly trade, an instance of the long-distance shipment of Pylian perfumed olive oil abroad.

Among the tablets of the Pylos Fr series, which formed the focus of Shelmerdine's study, are two recording offerings to deities in amounts very much greater than normally offered to religious (or indeed nonreligious) recipients. The texts are as follows:

Fr 1202 (S1202-H2)

.a , pa-ko-we v 4
me-tu-wo , ne-wo , ma-te-re , te-i-ja OLE+*PA* 5 s 1

Fr 1206 (S1202-H2)

po-ti-ni-ja , a-si-wi-ja , to-so , qe-te-jo OLE+*PA* 5 v 4

Each tablet records five major units of oil plus a number of smaller units. That the oil is perfumed is shown by the ligature of the ideogram with *PA*, abbreviating *pa-ko-we* (written out on Fr 1202): /*sphakowen*/, indicating sage-scented oil.

The amounts recorded are, on the Ventris-Chadwick values (1973, 394), ca. 160 liters and 150 liters, so clearly quite substantial. Regardless of the modern equivalencies, these are by far the largest offerings of perfumed olive oil recorded anywhere in Linear B. To underline this point, it is worth reviewing the relevant data. The primary evidence comes from Pylos and Knossos, considered in turn below.

Amounts of Perfumed Oil Offerings in the Linear B Records

Table 12.1 shows amounts of olive oil disbursed in the Pylos Fr series in descending order of magnitude. All figures are converted into the smaller Linear B measure v to facilitate comparison. It may be noted that not all disbursements in the table are definitely religious offerings, for instance, the issue "to the attendants" on Fr 1205 may be for "ordinary" staff (Shelmerdine 1985, 97–98, 105, 121). But most are religious, and there are none that are certainly not religious (Bendall 2001; 2007, 96–102). The issue is not essential for present purposes: the point is that the amounts in Fr 1202 and 1206 are exceptionally large.

Fr 1202 and 1206 stand at the top of the list, with v 100 and v 94 respectively. The other disbursements are all much smaller. The next largest is a disbursement of v 20, about a fifth as much, followed by one disbursement of v 18 and one of v 16. It is notable that all three of these are intended for groups of recipients (the forms are dative [dat.] plural). The next two entries are v 12, followed by seven of v 6–7 plus one that is between 6 and 17, four of v 2–4, two between v 1 and 5, and eight of v 1 or less. In the remaining cases the numbers are lost, but of the 29 entries where figures are preserved, only seven record more than v 7. Thus, relatively small amounts (i.e., v 7 or less) are clearly the standard (76% of preserved entries).

The data from Knossos show a similar pattern, except at Knossos there is (clear) evidence for nonreligious disbursements. Table 12.2 shows the religious offerings only. The first four entries are quite substantial (v 42, 37, 30, 24+), but even the largest of these is less than half of the two largest amounts at Pylos. The other disbursements are all smaller: five are v 18–19; six are v 12; one is v 9; two are v 6 or 12; one is v 6–17 (at most); 23 are v 6; six are in the range v 3–4; one is v 1–5; and the remaining 20 entries with legible totals are v 1 or less. Again, small offerings are clearly the rule: 75% of the offerings are v 6 or less.

Small amounts are standard also for nonreligious disbursements, although the pattern is less striking (Table 12.3). (Oil moving around within

Fr	Recipient/Address	Time Designation	Amount	= v
1202	ma-te-re te-i-ja	me-tu-wo , ne-wo	5 s 1 v 4	100
1206	po-ti-ni-ja , a-si-wi-ja		5 v 4	94
1216	pa-ki-ja-ni-jo-i		1 v 2	20
1235.1	wa-]na-so-i , wa-na-ka-te		1	18
1205	a-pi-qo-ro-i		s 2 v 4	16
1223.1	]ti-no-de		s 2	12
1223.2	lost - also ti-no-de?		ṣ 2	12
1236	pa-ki-ja-ni-jo , a-ko-ro , u-po-jo , po-ti-ni-ja		s 1 v 1	7
1227	wa-na-ka-te , wa-na-so-i		s 1 v 1	7
1231.2	ke-se-ni-wi-jo[		s 1[	6+[1]
1220.2	di-pi-si-jo-i , wa-na-ka-te		s 1	6
1232	di-pi-si-jo-i	po-ro-wi-to	s 1	6
1218	di-pi-si-je-wi-jo	po-ro[-wi-to	s 1	6
1225	u-po-jo po-ti-ni-ja		s 1	6
1221	wa-na-se-wi-ja	po-ro-wi-to	s 1	6
1220.1	ro-u-si-jo a-ko-ro		v ą	4
1235.2	]wą-na-so-i , po-ti-ni-ja		v 3	3
1226	ro-u-si-jo , a-ko-ro , te-o-i		v 3	3
1219	wa-no-so-i , po-se-da-o-ne		v 2	2
1211	pa-ki-] ja̧-na-de		v[	1+[2]
1240	di-pi-si-jo , e-qo-[		v 1 [	1+[3]
1230	di-wi-jo-de		v 1	1
1217	pa-ki-ja-na-de	re-ke-e-to-ro-te-ri-jo	v 1	1
1233	]so , pa-ki-ja-na-de		v 1	1
1222	wa-na-so-i	to-no-e-ke-te-ri-jo	v 1	1
1228	wa-na-so-i , e-re-de		v 1	1
1194	]de		v 1	1
1224	po-se-da-o-ne	pa-ki-ja-ni-jo-jo , me-no	z 2	0.5
1204	ti-ri-se-ṛọ-e		z 1	0.25
1355	te-o-i		Lost	
1231.1	po-ti-ni-ja , di-ṗị[-si-]jo-i tẹ[		Lost	
343	po-]se-da-o-ne	re-ke-to-ro-te-ri-jo	Lost	
1209	pa-ki-ja[-na-de		Lost	
1234	wa-na[		Lost	
1251	wa-na-so-i̯[		Lost	
1338.1	e-qo-me-ne-[		Lost	
1338.2	di-pi-si-jo-i[		Lost	
1245	]jo-i ẹ[		Lost	
1244	me-ki-to-de[		Lost	
1200	lost		Lost	
1215	wa-na-ke-te , wa-na-se-wi-jo		No entry	—

Table 12.1. Perfumed olive oil disbursements at Pylos in descending order of magnitude. [1]1231.2: the number cannot have been more than s 2 v 5 (= v 17) or it would have been rounded up to the major unit. [2]1209 and 1211, quasi-joined by Bennett and Olivier (1973), are now dissociated. In 1211, the number cannot have been more than v 5. [3]1240: number probably complete; it cannot have been more than v 5.

Series	Tablet	Recipient	Amount	= v
Fh	357.1	*47-so-de	OLE 2 s 1	42
Fh	357.2	e-ra-de	OLE 2 v 1	37
Fp(2)	354.1	]ka-ra-e-<ri>-jo	OLE 1 s 2	30
Fh	9077	*56-ti[	OLE]1 s 1	24+[1]
Fh	5467.b	]de / i-je-[	OLE 1 v 1[	19+[2]
Fh	356	o-mi-ri-jo-i	OLE 1[	18+[3]
Fh	5501	*47-so-de	OLE 1	18
Fp(1)	13	a-ne-mo-i-je-re-ja	OLE 1	18
Fp(1)	1.3	pa-si-te-o-i	OLE 1	18
Fp(1)	14	pa-si-te-o-i (Amnisos)	s 2	12
Fp(1)	1.3	da-da-re-jo-de	s 2	12
Fp(1)	46	si-ja-ma-to	s 2	12
Fp(1)	15	*56-ti	s 2	12
Fp(2)	363.2	da-*83-ja-de / i-je-ro	s 2	12
Fp(2)	363.3	di-wo-pu-ka-ta	s 2	12
Fp(1)	13	a-ne-mo-i-je-re-ja (u-ta-no)	s 1 ṿ3	9
Fp(1)	1.6	qe-ra-si-ja	s 1[	6 or 12[4]
Fp(1)	1.7	pa-si-te-o-i (Amnisos)	s 1[	6 or 12
Fh	5498.a–b	ru-do-ro-ị	s 1[	6+[5]
Fp(1)	1.2	di-ka-ta-jo di-we	s 1	6
Fp(1)	7	di-ka-ta-de	s 1	6
Fp(1)	1.4	pa-de	s 1	6
Fp(1)	48	pa-de	s 1	6
Fp(1)	15	pa-si-te-o-i	s 1	6
Fp(1)	16	pa-si-te-o-i	s 1	6
Fp(1)	18	pa-si-te-o-i	s 1	6
Fp(1)	6	pa-si-te-o-i	s 1	6
Fp(1)	5	pa-si-te-o-i	s 1	6
Fp(1)	13	pa-si-te-o-i	s 1	6
Fp(1)	48	pa-si-te-o-i	s 1	6
Fp(1)	48	qe-ra-si-ja	s 1	6
Fp(1)	6	qe-ra-si-ja	s 1	6
Fp(1)	5	qe-ra-si-ja	s 1	6
Fp(1)	13	qe-ra-si-ja	s 1	6
Fp(1)	14	qe-ra-si-ja	s 1	6
Fp(1)	16	qe-ra-si-jo	s 1	6
Fp(1)	48	pa-si-te-o-i (Amnisos)	s 1	6
Fp(1)	18	]-jo	s 1	6
Fh	352	de-u-jo-i	s 1	6
Fh	5505	me-ra-de	s 1	6
Fh	462.2	*47-so-de	s 1	6
Fh	5498.b	lost	s 1	6
Fp(1)	13	au-ri-mo-de	v 4	4
Fp(1)	1.10	a-ne-mo-i-je-re-ja	v 4	4
Fp(1)	1.8	e-ri-nu	v 3	3
Fh	462.2	si-ja / e-to-wo-ko	v 3	3
Fh	462 *v*.1	]de	v 3	3
Fh	351	*47-so-de	v 3	3
Fp	14	a-re	v[	1+[6]

Table 12.2. Olive oil offerings at Knossos in descending order of magnitude. [1]Fh 9077: it is impossible to tell if more major units would have been present. [2]Fh 5467.b: the number is probably complete; it cannot be more than v 23. [3]Fh 356: number probably complete. [4]Fp 1.6–7: one of the entries in these two lines must be 6 and the other 12 for the total at the end of the tablet to calculate correctly. [5]Fh 5498.a–b: number not more than v 17. [6]Fp 14: number not more than v 5.

Series	Tablet	Recipient	Amount	= v
Fp(1)	13	*47-ku-to-de	v 1	1
Fp(1)	13	pi-pi-tu-na	v 1	1
Fp(1)	14	e-ke-se-si	v 1	1
Fp(1)	1.9	*47-da-de	v 1	1
Fs	4	a-ro-do-ro-o , / wa-ḳẹ-ta	v 1	1
Fs	11	qe-sa-ma-qa , / ta-mi-te-mo	v 1	1
Fs	23	ja-pe-re-so	v 1	1
Fp(2)	354.2	]jo	v 1	1
Fp(2)	354.2	pa-ja-ni-jo	v 1	1
F	726	]wi-jo-jo e-ra[	OLE+*A* v 1	1
Fh	365.a	da-]*83-ja-de	v 1	1
Fh	365.b	]ḍạ-so-de	v 1	1
Fh	462.1	]-si-ja	v 1	1
Fs	2	sa-na-to-de	z 2	0.50
Fs	12	lost	z 2	0.50
Fs	17	]i	z 2	0.50
Fs	19	e-ti-wa	z 2	0.50
Fs	24	lost	z 2	0.50
Fs	25	]de	z 2	0.50
Fs	3	a-*65-ma-na-ke / me-na	z 1	0.25
Fh	462.1	a-ri-ja-wo-ne [	Lost	
Fh	393	*47-so-de[	Lost	
Fh	5430	*47-so-ḍẹ[	Lost	
Fh	5479	]*47-so-de / wa-u-so[	Lost	
Fh	9064	]*47-so-de [	Lost	
Fh	9067	da-]*83-ja-de [	Lost	
Fh	373	tu-ni-ja-ḍẹ , / te-[	Lost	
Fh	<390>	e-ri-nu[	Lost	
Fh	5475	qe-ra-si-[ja?	Lost	
Fh	2013	]jạ-[.]-jo / pe-da i-je-[ro?	Lost	
Fh	5467.a	] di-ka-ta-de[	Lost[7]	
Fp(2)	363.1	qe-te-a , te-re-no[8]	Lost	
Fp(2)	363.2	ki-ri-te-wi-ja	Lost	
Fs	8	pa-de	Lost[9]	
Fs	9	]ki-to , o-ja-de , [	Lost	
Fs	20	ạ-*65-ma[-na-ke	Lost	
Fs	21	ka-u-da	Lost	
Fs	22	]ṇạ-to-de	Lost	
Fs	26	]ki-ri-jo-de[	Lost	
Fs	29	]de	Lost	

Table 12.2, cont. Olive oil offerings at Knossos in descending order of magnitude. [7]Fh 5467a: apparatus notes could be ṣ ḷ. [8]Fp 363.1: text is probably a heading rather than recipient. [9]Fs series: lost numbers were probably v 0.50, on analogy with preserved figures for this series.

the perfume industry is explicitly excluded here, since this was for processing and would eventually return to the palace.) The top amount is a massive v 222, but this is going to "the tanner(s)" (either nominative plural */wrīnēwes/* or dat. singular */wrīnēwei/*) and almost certainly intended for industrial production (Aura Jorro 1985–1993, II, 434). The v 36 in Fh 5432.*v* may also be related to industry if *de-ma-si* indicates "hides/skins" (Shelmerdine 1995, 103), and some of the other large amounts may be intended for groups of persons (e.g., *pe-da-i-ra* , *do-re-we*). Entries that seem to refer to rations for individuals tend to be v 7 or less.

Fh	Tablet Text	OLE	= v	Notes
5428	wi-ri-ne-we	OLE 12 s 1	222	Rations or industrial
341	pe-da-i-ra / du-ni-ja	OLE 4 s 2 v 1	85	MN: rations?
346	a_3-ki-pa-ta	OLE 2[	36+[1]	MN: rations?
342	a-ne-ra-to	OLE 2	36	MN: rations?
342	do-re-we	OLE 2	36	MN: rations?
5432*v*	]de-ma-si	OLE 2	36	Rations or industrial
344	ka-pa-ri-jo-ne	OLE 1	18	MN: rations?
386	ka-ke-we	s 1 v 1	7	Rations or industrial
353	ra-ma-na-de / de-ma-si	s 1	6	Rations or industrial
368	o-pi , du-ru-po	s 1	6	MN: rations?
1057	*56-i-ti	s 1	6	MN: rations?
5432*r*	]-pte-si / [.]-u-pi-ri-[.]-i̯	s 1	6	Rations or industrial
1056	ra-pte-re	v 3	3	Rations or industrial
5502	ku-ru-me-ne-jo / de-u-ki̯-jo̯[	v 2̣[	2+[2]	MN: rations?
1059	wi-na-jo / e-ra-jo	v 1	1	MN: rations?
345	du-ru-po	v 1	1	MN: rations?
360.a	ki-ra-*56-so , u[	lost		MN: rations?
360.b	ma-si-dwo / me-[	lost		MN: rations?
<378>	]ma-qa-to	lost		MN: rations?
<382>	ko-ro-ja-ne	lost		MN: rations?
<384>	]re-pi-ru-nu-we[	lost		MN: rations?
<392>	u-ru-pi-ja[	lost		MN: rations?
5429	wa-po	lost		MN: rations?
5463	qa-to-no-ro̯[	lost		MN: rations?
5465	ko-ki-de-jo / qa[	lost		MN: rations?
5486	]ko̯-pe-re-we	lost		MN: rations?
5487	*56-i̯-ti-je̯[	lost		MN: rations?
5435	wi-ri-ne-we [	lost		Rations or industrial

Table 12.3. "Nonreligious" disbursements of olive oil at Knossos. [1]346: apparatus notes "probable trace of third unit on right edge." This would raise the count to v 54+. [2]5502: number not more than v 5. MN = man's name.

Tables 12.2 and 12.3 include all disbursements at Knossos not connected with the oil industry, with the exception of one tablet, given here for completeness.

Fp(2) 5504 (222?)
a-ka-ta-ra-te-so-de OLE l̥0̣

Fp(2) 5504 records v 180 (if the reading is accurate), but it is not clear whether this is an offering or something else (Bendall 2007, 132). If it is an offering, it would join (and indeed exceed) our two very large amounts at Pylos, but without certainty it adds nothing to the argument either way.

This brief survey underlines the extent to which our two large offerings at Pylos are exceptional. Each is more than twice the next largest offering recorded anywhere else in Linear B (v 42) and very substantially more than the majority. Why should these two offerings be so large?

I would like here to speculate that these offerings are so large because they were being shipped to a shrine (or shrines) located abroad. If one were

taking the trouble to ship oil in a long-distance maritime venture, a relatively small amount such as was normally issued to deities in the Linear B records might well seem inadequate—a larger gift would certainly create more of an impression. I do not believe this suggestion is capable of proof one way or the other, but there is some contextual support that makes it plausible.

It is well established that the majority of Linear B offerings of oil (and other substances, such as honey) were made to local shrines (Killen 1987), and that disbursements were, in at least some cases, standard and regular. For instance, the Knossos Fp(1) set of offerings tablets records multiple small disbursements (V 1 being the most common amount) going to a group of the same deities. The use of month names indicates the disbursements were regular, and the set as a whole seems to refer to a period of five to six months (Bendall 2007, 107 with further references). The Fs tablets also show some evidence of regular disbursements, and it may even be that the Fs and Fp disbursements were thrice-monthly (Melena 1974, 95; Palmer 1994, 130–134; Bendall 2007, 109). At Pylos, too, we see the same recipients (e.g., Poseidon and *u-po-jo-po-ti-ni-ja*) repeatedly being given very small amounts, suggesting a small but steady supply of perfumed oil from the palace to the shrines, or at least to a few specific shrines (Killen 1987; Bendall 1998–1999).

In the case of local shrines, it is not difficult to envisage that, where payments were regular, it would be perfectly acceptable to send small amounts since the shipments could easily be repeated. What would one do, however, if one wanted to send an offering to a shrine that was not local? Depending on the distance, a regular supply might well be impractical (and sustained support may not have been the aim in any case). Especially if the gift entailed a voyage by sea, such journeys would be unlikely to be undertaken on a monthly basis. It might thus be more appropriate to send something more substantial, in a "lump sum," as it were. Our two larger amounts may relate precisely to this sort of situation.

An important point to note in this connection is the name of one of the recipients. The offering recorded in Fr 1206 is intended for *po-ti-ni-ja a-si-wi-ja*, the "Lady of *Aswia*." The scholarly consensus is that this designation corresponds to a geographical term appearing in the Hittite documents as Aššuwa (*a-aš-šu-wa*), referring to a region of western Anatolia (Chadwick 1957, 126; 1968, 63–64; 1988, 79, 91; Bennett 1958, 45; Hiller 1975, 397, 404; Cline 1996, 141, 144; 1997, 190–192; Morris 2001a, 423, 425–426; 2001b, 135–136; Palmer 2003, 126; Palaima 2007, 202; Nikoloudis 2008, 47–49). A dissenter from the common view is Monique Gérard-Rousseau, but her alternative interpretation, "Mistress of the Marsh" (1968, 42–44), is hardly convincing and has received scant support (Aura Jurro 1985–1993, I, 110 n. 2). She does not discuss the term even in passing in her 1973 article on Anatolian-Mycenaean religious connections.

Aššuwa appears primarily in connection with Tudhaliya I/II, who was active in the early part of the 14th century B.C. (del Monte and Tischler 1978, 52–53; del Monte 1992, 17; on the chronology, see Bryce 1998, 131–133). This places the references in a period earlier than our Pylos documents, but there is no reason to suppose that the term had disappeared in the latter part of the Late Bronze Age, and it may have continued into the first millennium as "Asia," the name of the Roman province located in this region (Garstang and Gurney 1959, 107; Cline 1996, 141; Bryce 1998, 146; 2005, 125, 424–425 nn. 13, 14; Niemeier 1999, 145; Morris 2001a, 425–426).

The interpretation of *a-si-wi-ja* as *Aswia*, relating to Aššuwa, is long-standing, but normally the offering in Fr 1206 is taken as evidence for a "foreign" deity being worshipped at a shrine somewhere in Messenia (e.g., Morris 2001a, 425, 429, 432; Michailidou and Voutsa 2005, 18). If this were the case, however, it seems curious that a foreign deity should receive so much more oil than local deities, especially one such as Poseidon, who receives a mere V 2.75 of oil in the extant records contrasting with *Potnia Aswia*'s V 94, despite evidence from other Linear B documents that he was a particularly important deity at Pylos.

It has rightly been pointed out that the disbursements recorded in Fr 1202 and 1206 need not have been intended to be made "all at once" in a single consignment (Shelmerdine 1985, 80–81; Bendall 2007, 103 n. 35). Fr 1206 includes the totaling word *to-so* /*tos*(*s*)*os*/ "so much," indicating it is a summary of more than one offering. However, the idea that the offering(s) thus summarized were to be made on different occasions encounters some difficulties. Above all, it needs to be explained why the data were recorded specifically in this way. The standard practice in Linear B is to record

separately offerings either made at different times or going to different recipients. Compare, for instance, KN Fp(1) 1, which also includes the totaling formula, but where the different recipients are individually listed. Similarly, in other tablets of the Fp(1) set, the same recipients often appear, but the different times of the offerings are specified through indicating the month name. The Pylos records also sometimes have time designations, for instance, *pa-ki-ja-ni-jo-jo me-no* for "the month of *p*." or *re-ke-to-ro-te-ri-jo*, referring to a specific festival (Bendall 1998–1999, with further references). If the disbursements totaled in Fr 1206 were intended to be made on different occasions, it would be contrary to standard practice not to indicate this. It may be noted that the presence of the transactional term *qe-te-jo* on Fr 1206 does not affect the argument either way. The precise meaning of the word is not well understood, but it may have the sense "to be paid" perhaps in at least some cases in respect of religious obligations (Hutton 1990–1991, 130). Be that as it may, there is nothing to suggest that a *qe-te-jo* payment would be made up of amounts to be "paid" on separate occasions.

In fact, the other tablet, Fr 1202, does specify what is thought to be a time designation: *me-tu-wo ne-wo*. Whether its interpretation as /*methuos newos*/ "in the time of new wine" is agreed upon is not essential here, but that the term is a time designation is generally accepted (Bennett 1958, 29, 42; Aura Jorro 1985–1993, I, 446; Shelmerdine 1985, 97). This tablet should therefore refer to "one" offering, made at a particular time (Morris 2001a, 423), to a particular recipient, the *ma-te-re te-i-ja* / *Mātēr Theia*/, "Divine Mother" (Aura Jorro 1985–1993, I, 430). And unlike Fr 1206, there is nothing to suggest that Fr 1202 is a totaling tablet (for instance, the word *to-so* does not appear).

In sum, our two large disbursements do not "behave" like other Linear B offerings. There is no reason to believe they summarized installments to be doled out on separate occasions, despite the totaling formula on Fr 1206, since such disbursements were normally recorded separately in Linear B and the probable time designation on Fr 1202 suggests a single gift. Yet the idea that they were intended for consumption at shrines in Messenia encounters the difficulty of explaining why a foreign deity (in Fr 1206) should receive so much more than any local deity. There is nothing, however, to preclude the possibility that the oil was actually being shipped to the deity at her own shrine in Anatolia, and the offering recorded on Fr 1202 may also have been intended to go abroad. Sarah Morris makes a cogent point that Fr 1202 and 1206 belong together since they were both filed in Room 38, rather than Room 23, where most of the other Fr tablets were found (Morris 2001a, 423); Room 38 was identified by Shelmerdine as having a distinctive archaeological profile (Shelmerdine 1985, 94–96).

Although not necessary to the argument, it may be noted that the amounts on Fr 1202 and Fr 1206 may approximate what a deity might receive in a given year. Tablet KN Fp(1) 1, for example, records a monthly total of v 68, intended for nine different shrines and/or deities. Extrapolating from this, one might (speculatively) expect ca. v 90 to be the annual amount given to a single deity (68 divided by 9, multiplied by 12 = 90). If intended for shipment abroad, something on the order of the amount that a local deity would receive annually might seem an appropriate amount to send, particularly given that such journeys would probably have taken place not more than once a year.

In any case, the idea that the offerings were so large because they were being shipped abroad is attractive, and there is increasingly good evidence for a plausible social and political context in which such gifts might have been made.

Pylos, Anatolia, and *Ahhiyawa*

There is both old and new evidence for contact between societies of Anatolia and those of the Mycenaean world, some specifically involving Pylos. To begin with, John Chadwick long ago noted that persons from Anatolia were present in the Pylian workforce, since several work groups of women appearing in the ordinary rations records are described by western Anatolian and eastern Aegean ethnicons. These include women from Miletus and Knidos on the coast of Asia Minor and some

called *ra-mi-ni-ja*, probably /*Lāmniai*/, referring to the northeast Aegean island of Lemnos. As Chadwick (1988, 91) pointed out, "any one of these alone would be suspect; but the coincidence of three names from this distant region is remarkable." He further pointed to possible Chians, women called *Dzephurrai* (possibly referring to Halicarnassus), and again *Aswiai* (if his proposal that **64 = swi* is accepted; Chadwick 1968, 64; 1988, 79–80, 84, 91). Table 12.4 lists the relevant terms and the numbers of women and children involved. It may be noted that it is clear the women were physically in Messenia; the women of Miletus, for instance, are all gathered at the Hither Province town of *ro-u-so*. Although not germane to the present discussion, it is worth correcting here a misconception that these women were all textile workers (e.g., Michailidou and Voutsa 2005, 18; Niemeier 2005, 16): some of the groups are so designated, but not all, and we simply do not know what work they were engaged in.

The tablets record 166 women drawn from western Anatolia and the eastern Aegean, together with 165 children. Although this is only a fraction of the some 750 women to whom the palace regularly disbursed rations (Chadwick 1988, 76), they represent a significant presence in the overall population—in fact, nearly a quarter (22%). Further occurrences of these and other foreign ethnicons, sometimes used as personal names, at Pylos and other sites are mentioned by Shelmerdine (1998, 295 with n. 29; see also Hiller 1975, esp. 398–399, 404–405; West 1997, 621; Palmer 2003, 126; Palaima 2007, 198–200; Nikoloudis 2008).

It might be thought that the idea of an offering to the "Lady of *Aswia*" being made locally in Messenia would be supported by the presence there of women from *Aswia*, but this still would leave unexplained the large amount. Why should a deity of workers for the palace receive more than the local palace-maintained deities?

From the other side, there is a considerable amount of archaeological evidence for an active Mycenaean presence in Anatolia (Mee 1978; 1998; 2008, 372–374; Mountjoy 1997; 1998; Niemeier 1998; 1999; 2003; 2005; Basedow 2002; Wiener 2007, 13–14; Yildirim and Gates 2007, 288–294). The site of Miletus in particular appears to have been an important center for Mycenaean activities from at least Late Helladic (LH) IIIA:1 onward, with abundant imported pottery, locally made Mycenaean wares, *phi*, *psi*, and animal figurines, and Mycenaean-style burials (Mee 1978, 133–137, 149; Niemeier and Niemeier 1997; Niemeier 1998, esp. 30–40; 1999, esp. 144, 149–154; 2005, esp. 10–13, 19–20, color pls. 1, 20, 21; Greaves 2002, 47–65; Benzi 2005; for the two possible Linear B signs, see Niemeier 1998, 37, photo 13-14; 2005, 12, fig. 32). Mycenaean pottery is found at over 20 other sites throughout western Anatolia (esp. in the southwest, but also reaching Troy), and Mycenaean built tombs and chamber tombs are known at Iasos, Ephesus, and Müsgebi (48+ tombs), among others. Pottery was of course traded, but the quantity and distribution suggest an active and

Chadwick's Group Number	Linear B Term	Interpretation	Translation	Women	Girls	Boys
6	a-*64-ja	*Aswiai*	Aššuwans	35	12	14
38	a-*64-ja-o	*Aswiāōn*	[sons] of the Aššuwans	lost	lost	12
9	ki-ni-di-ja	*Knidiai*	Knidians	21	12	10
10	ki-si-wi-ja	*Kswiai*	Chians	7	4	6
15	mi-ra-ti-ja	*Milātiai*	Milesians	16	3	7
35	mi-ra-ti-ja	*Milātiai*	Milesians	54	35	22
22	ra-mi-ni-ja	*Lāmniai*	Lemnians	7	1	2
49	ze-pu$_2$-ra$_3$	*Dzephurrai*	Halicarnassians?	26	15	10
TOTAL				166	82	83

Table 12.4. Women from western Anatolia and the eastern Aegean in the records of Pylos.

sustained relationship, while the burials suggest a concrete and extended presence (although not necessarily "colonization" [Mee 1998, 141, 147; also Mee 1978, 149]). The Anatolian evidence is part of a wider picture of expanding Mycenaean trade networks throughout the eastern Aegean in LH IIIA (Mee 1988; 1998, esp. 140–141; 2008, 365–369), and there are finds of Anatolian materials in the Mycenaean world from the shaft grave period onward (e.g., Koehl 1995; but see also Cline 1991a, 1991b—specifically Hittite artifacts are rare).

Recent discoveries have contributed to a better understanding of the political geography of western Anatolia in the Late Bronze Age and of the significance of the term "Ahhiyawa," which appears in the Hittite documents. Whether Ahhiyawa might somehow refer to "Mycenaeans" (however loosely defined) has been debated since the 1920s. While the issue stood in doubt, the Hittite sources could never be used with any confidence as evidence for Mycenaean activities, since the equation was merely speculative. New evidence, however, has resolved the issue to the satisfaction of a growing consensus of scholars (e.g., Bryce 1986, 1998; Gurney 1992; Starke 1997; Hawkins 1998, 2, 30–31; Mee 1998, esp. 142; 2008, 365, 374, 382; Mountjoy 1998; Niemeier 1998; 1999; 2005, 15–20; Taracha 2001; Hope Simpson 2003; Wiener 2007, esp. 12–13; Crouwel 2008, 265; Dickinson 2008, 191–192 [explicitly recanting an earlier position]; Yakubovich 2010, 79; Beckman, Bryce, and Cline 2011).

The new data include two relatively recently discovered inscriptions, one from a pool at Yalbert, the other a bronze tablet found near the Sphinx gate at Hattusas (for a succinct account of their impact with further references, see Bryce 1998, 295–298; Hawkins 1998, 1; Niemeier 1999, 141–142), but the crucial evidence was David Hawkins's reading of the Karabel Pass inscription (Hawkins 1998). The Karabel inscription, carved into a cliff face, had been known to modern scholarship since the 19th century, but understanding the text depended on work done throughout the 20th century on the decipherment of Luwian Hieroglyphic. Key to the reading was the reinterpretation by Hawkins and Anna Morpurgo Davies (1998) of the so-called "Tarkondemos seal." The correct interpretation turned out to be "Tarkasnawa" ("donkey"), the name of a ruler of the western Anatolian kingdom of Mira in the late 13th century B.C. It emerges that the Karabel inscription also refers to Tarkasnawa and marked the border of his kingdom. With this point established, the rest of western Anatolian political geography falls into place, substantially along the lines proposed by Garstang and Gurney already in 1959 (Fig. 12.1). Wilusa (= *Wilios* > *Ilios*) was in the region of the Troad, as had been long supposed, and the Seha River land was in the region of the modern Caicos and/or Hermos Rivers, probably incorporating at times the island of Lesbos (Lazpa). Karabel is immediately to the south, marking the border with Arzawa/Mira. Arzawa was a powerful west Anatolian kingdom with its capital at Ephesus (the equation with Apasa being confirmed) that was broken up into smaller vassal states, including the rump state Mira, by Mursili II after his successful conquest of the region ca. 1318/1317 B.C. Immediately south was Millawanda, a place known from Hittite documents to have a close connection with the Ahhiyawans. The long-standing question of whether Millawanda was in fact Miletus (summarized in Niemeier 1998, 21–23) is now resolved in favor of the identification. One objection to the equation had been made on the basis of the Pylos Linear B sources, which give the form *mi-ra-ti-ja*, showing no digamma. However, it is likely that the Hittite form is based on the root form *Mila*(*t*)- plus an Anatolian suffix -*wanda*, "land of" (Hawkins 1998, 30–31 n. 207, citing a communication by Morpurgo Davies; Niemeier 2005, 19). South of Millawanda were the Lukka lands (= Lycia). There is no room for Ahhiyawa itself to have been on the Anatolian mainland, and the only plausible candidate is somewhere in the Mycenaean world.

Part of the reason that debate surrounding the word Ahhiyawa took so many decades to resolve is the vexed question of Homer and the historicity of the Trojan War, which still exerts a powerful influence in Western cultural imagination (Sherratt 1990; Bennet 1997; Easton et al. 2002; Haubold 2002 [a fascinating account relating German public perception of the Troy excavations to modern episodes of state unification]; Latacz 2004; Niemeier 2005, 16; Bryce 2006). The issue has often led to sensationalism and an obscuring of what is genuinely valuable and interesting about the Hittite evidence: Homer has nothing to do with the matter. What we have instead in the Hittite material are Late Bronze Age documentary sources that shed direct light on Mycenaean activities in western

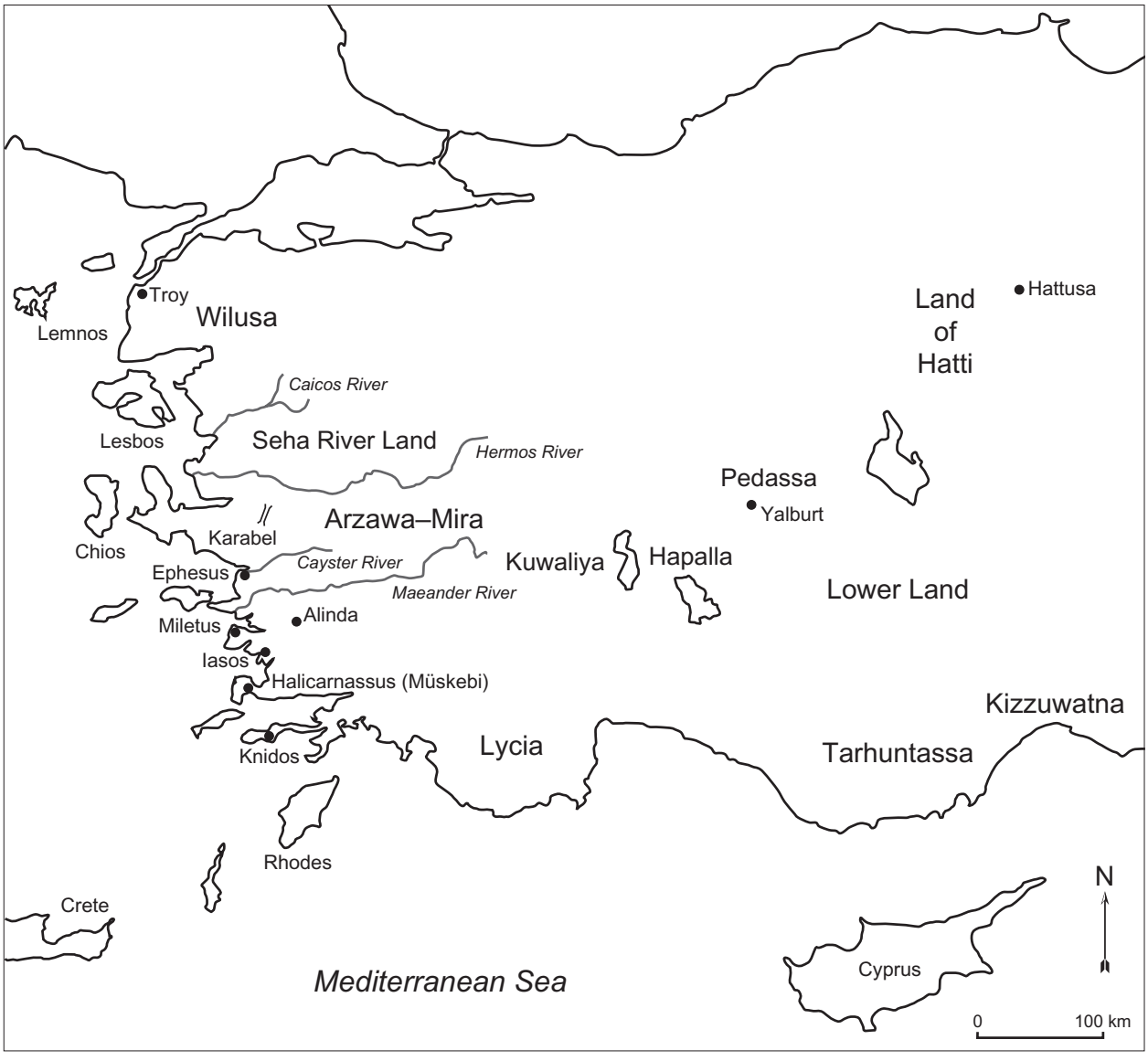

Figure 12.1 Map of western Anatolia. After Hawkins 1998, 31, fig. 11.

Anatolia. It is true that the documents must be interpreted with caution, as with any ancient sources, but at least such work may now proceed with assurance that the data are indeed relevant.

Nevertheless, the term "Ahhiyawan" cannot be simply equated with the modern term "Mycenaean," used loosely to refer to palace states of the southern Aegean in the Late Bronze Age. As scholars such as Jack Davis and John Bennet (1999, esp. 111–115) have discussed, the issue has not to do with "ethnicity," but with belonging to a certain social order expressed in a shared material culture visible today in the archaeological record. "Ahhiyawa" as used by the Hittites cannot be supposed to have mapped on to this understanding in any straightforward way. It has been variously argued that Ahhiyawa may refer to Mycenae itself, Thebes, the Dodecanese (especially Rhodes), or even Knossos, or that it may have been some sort of confederacy led by one of the mainland polities (Mountjoy 1998; Mee 1998, esp. 143; Niemeier 1998, 20–21, 43–45; 2003, 104; 2005, 19; Hope Simpson 2003; Crouwel 2008). Seeking particular locations, however, may be missing the point. The Mycenaean world was certainly not a unified political entity at this time (Mee 1998, 142–143;

Shelmerdine 1998, 293), but it may be unnecessary to insist on identifying a specific one of the many Mycenaean polities as "Ahhiyawa," and the issue need not even be one of anything so organized as a confederacy (although alliances between the various polities likely played some role). "Ahhiyawan" may have been used in a general way by the Hittites to describe anyone from the "Mycenaean world"—it is an ethnic, not a geographical, designation (Yakubovich 2010, 79 n. 2)—and it is probable that they never had any clear understanding of the political realities across the Aegean. The Hittites' knowledge of Ahhiyawa is remarkably hazy compared with their detailed information about ruling dynasties and states on the Anatolian mainland (Niemeier 1998, 23; 2005, 18). In fact, there seems to be an inverse correlation between Hittite power and the presence of Mycenaean artifacts (Sherratt and Crouwel 1987, 345; Cline 1991b, 3–4), and Ahhiyawan contact seems to have been more with the Luwian polities of the western coast than with the Hittites themselves. Certainly, when a "Great King" of Ahhiyawa was addressed in Hittite correspondence a particular ruler must have been intended, but there is no need to suppose that Mycenae (for example) had any sort of "hegemony" or even supremacy over other Mycenaean polities for its ruler to have been thought of by the Hittites as a "Great King" (contra Niemeier 1998, 44). The Hittites may simply have been referring to whichever leader was best known to them (and presented to them as such). Further, the Hittite references cover a period of some 200 years, and there may well have been changes over time in the Hittite understanding of what constituted "Ahhiyawa." Indeed, the political and cultural realities within the Aegean were themselves shifting over this period (e.g., Mee 1998, 145), and the Hittites' means of verifying whatever various claims were made by "Ahhiyawans" active in Anatolia would have been limited (Huxley 1960, esp. 16–17 with a lucid early discussion of these points; see also Bryce 1989b, 5).

For present purposes, what is of interest is the light the Hittite sources shed on Mycenaean, Luwian, and Hittite political and social interaction. The material is well known, and a long summary is not needed here, but it is useful to highlight some of the more personal aspects of the associations, and there have been sufficient changes in scholarly understanding of the chronology of the documents that a brief account is worthwhile.

Ahhiyawan Activities in Anatolia

Hittite sources indicate that the Ahhiyawans were in occasional contact with the Hittites themselves and in extensive contact with the Luwian kingdoms of western Anatolia, especially Arzawa. Their activities included meddling in local politics, forming (shifting) alliances, raiding and engaging in warfare, transferring populations, and intermarrying with local elites (Bryce 1998; Niemeier 1999; Wiener 2007). The situation varied over time and with regard to fluctuating political contexts, and the accounts below are drawn from different periods, but they indicate intimate and more or less sustained contact between the various political and social groups. This was a multicultural world, with influence going in multiple directions, and probably with a high incidence of multilingualism, even among the non-elite sectors of society (Houwink ten Cate 1995; Michailidou and Voutsa 2005; Wiener 2007, 13; Mee 2008, 373; Nikoloudis 2008; see also West 1997, 606–608, 611; Watkins 1998).

Regular contact with Anatolia began by at least the time of Tudhaliya I/II (early 14th century B.C.), whose *Annals* mention the king of Ahhiyawa in connection with conflict in the Seha River land (Garstang and Gurney 1959, 120; Cline 1996, 146–147). Tudhaliya engaged in several campaigns against Aššuwa, here applying a regional term to a confederation of some 20 minor western Anatolian states (Cline 1996, esp. 140–144; Bryce 1998, 135–137; Niemeier 1999, 145–146; 2005, 16–17; text in Garstang and Gurney 1959, 120–123; for the chronology, see Macqueen 1986, 45; Bryce 1998, 135 n. 11). A dagger found at Hattusas also mentions Aššuwa and, according to the (Akkadian) inscription on it, was dedicated by Tudhaliya as war booty; it is said to be of Mycenaean Type B although this

is debated (Cline 1996; Niemeier 1999, 150; 2005, 18–19). There is also some evidence for a dynastic marriage between Aššuwa and Ahhiyawa (Hoffner 2009, 290–292), although the further suggestion that a person named "Kadmos" was involved is suspect (Wiener 2007, 17, with further references).

The "Indictment of Madduwata," written during the reign of Arnuwanda I (ca. 1370–1360/55 B.C.), but beginning with events in the reign of Tudhaliya I/II (his immediate predecessor), also mentions Ahhiyawan involvement in western Anatolian political affairs (Bryce 1986; 1998, 140–149; Niemeier 1999, 146–147; for the text, see Beckman 1999, 153–160; for chronology, see Güterbock 1983, 134; Easton 1984, 30–34; Bryce 1986, 1–2; 1989a, 298). Madduwata was a ruler of minor territories in western Anatolia who evidently nursed greater ambitions and pursued them with considerable strategic acumen. The tortuous shifting alliances and double-crossings the document describes involve Madduwata twice being driven from his land by Attarasiya, described as a man of Ahhiya (an earlier form of Ahhiyawa). By the time of Arnuwanda I, Madduwata had gained control of Arzawa through a marriage alliance, and at this point he seems to have been on sufficiently good terms with Attarasiya to be conducting raids with him against Alashiya (Cyprus; Goren et al. 2003), claimed by the Hittites as a vassal state (Bryce 1998, 146). Part of the point of the letter was to complain about such activities.

Three further episodes of Mycenaean-Luwian-Hittite contacts again involve Arzawa (and later Mira) across some three or so generations in the late 14th to 13th centuries B.C. The first, during the time of Mursili II (ca. 1321–1295), focuses upon the then king of Arzawa, Uhhaziti, who was in league with the Ahhiyawans. Various campaigns by the Hittites against this alliance included the sacking of Millawanda in the third year of Mursili's reign (ca. 1318/1317 B.C.) and the invasion of the Arzawan capital, Apasa, whence Uhhaziti famously "fled . . . and went across the sea to the islands" along with some of the population (Bryce 1989a, 299; Hawkins 1998, 14; Niemeier 1999, 151). In the following year, the remainder of the refugee population, led by Tapalazunawali, a son of Uhhaziti (who by that point had died at sea), was comprehensively defeated. Tapalazunawali escaped, possibly to the Ahhiyawans, who may later have handed him over to the Hittites (Bryce 1998, 211–212; Niemeier 1999, 151).

Mursili dismantled Arzawa, creating three minor states from its territories: Mira joined with Kuwaliya, given to Mashuiluwa (married to a Hittite princess, Mursili's sister); the Seha River land with Appawiya, left to Manapa-Tarhunda (sealed with a marriage alliance between Manapa-Tarhunda's son and Mursili's daughter); and Hapalla, given to a man named Targasnalli (Bryce 1998, 213–214; Hawkins 1998, 10, 15). Mursili's *Annals* claim that 65,000 Arzawan inhabitants were deported to the Hittite homeland, which, even if the figure is exaggerated, must have been a significant part of the population. After this, Arzawa as a political entity ceased to figure in the Hittite records.

Relations were not always hostile. Late in his reign, Mursili II, suffering a long illness, asked for help from the gods of Lazpa (Lesbos) and Ahhiyawa (Gurney 1990, 39, 42; Morris 2001a, 428; Bryce 2002, 168, 283). Cult images were sent, and the king sought instructions on how to conduct the rites. This is of particular interest for the present issue, since it indicates knowledge of the gods and ritual practices of other cultures (for a similar case involving the export of Aegean ritual knowledge to Egypt, see Haider 2001; for an instance of Mycenaean knowledge of eastern ritual practices, see Maran 2004). The Hittites were aware of myths and rituals in multiple languages (Bryce 2002, 202, 242), and during times of imperial expansion actual cult statues of foreign deities were regularly moved to Hattusas and incorporated into the Hittite pantheon (Bryce 2002, 135–137). Another possible instance of less hostile relations occurred under Suppiluliuma I (1344–1322 B.C.), Mursili's father, who seems to have banished one of his family to Ahhiyawa, possibly his first wife Henti (Gurney 1990, 39; Bryce 1998, 173).

The second phase of interaction, beginning in the reign of Muwatalli II (1295–1272 B.C.), involved several decades of the activities of Piyamaradu, a high-ranking aristocrat with strong connections in western Anatolia (Bryce 1998, 244–248). Sometimes described as a "Hittite renegade," he may in fact have been a grandson of Uhhaziti, presumably seeking to reestablish Arzawan dynastic power in the region (Mellaart 1986, 216, 220–221; Starke 1997, 453; Hawkins 1998, 17 n. 76; Niemeier 1999, 151). Like Uhhaziti, Piyamaradu had

alliances with the Ahhiyawans (Bryce 1998, 321, 323). He married a daughter to Atpa, the governor of Millawanda, vassal state of Ahhiyawa, and was involved with a man named Tawagalawa, brother of the king of Ahhiyawa, in raising battle against the Hittites (Bryce 1989a, 310). Tawagalawa was also said to have "shared a chariot" with an official married into the Hittite royal family (Güterbock 1983, 136), again indicating complicated and shifting loyalties.

In the early years of Muwatalli's reign, Piyamaradu established himself in Wilusa, possibly by force, and was subsequently attacked by Manapa-Tarhunda, who was king of the Seha River land and a Hittite vassal (the source is the eponymous letter written by Muwatalli II to Manapa-Tarhunda; Houwink ten Cate 1983–1984, esp. 38–64; Bryce 1998, 245–246; text in Hoffner 2009, 293–296). Piyamaradu's defeat of Manapa-Tarhunda and actions such as the raiding of Lesbos provoked the Hittites to form a coalition against him, which included the vassal ruler of Mira, Kupanta-Kurunta (Bryce 1998, 246 n. 12 with references). Manapa-Tarhunda declined to join the expedition, claiming illness. The ultimate outcome is not recorded in the surviving documentation, but Muwatalli subsequently concluded a treaty with Aleksandu of Wilusa, who seems to have been installed as a Hittite vassal upon Piyamaradu's expulsion (Garstang and Gurney 1959, 102–103; Bryce 1989a, 301–302; 1998, 248). Manapa-Tarhunda was also deposed, and his son, Masturi (Muwatalli's own brother-in-law), put in his place.

The wider political context sheds light on motivations behind Hittite policy in western Anatolia during Muwatalli's reign and more generally (Bryce 1986; 1989b; for a comment relating specifically to the Ahhiyawans, see Taracha 2001, 420). Essentially the aim was not one of imperial expansion, but of containment through appeasement and vassalage, with military force as a last resort. Hittite imperial ambitions lay more in the lucrative southeast, especially Syria, but the western states were prone to the formation of coalitions that could become dangerous to the Hittite heartland itself. Indeed, in the time of Tudhaliya III, Arzawa and its allies were powerful enough to overrun much of southern Anatolia (Bryce 1998, 158–161). During Muwatalli's reign, Seti I of Egypt was on the brink of reestablishing power lost under Akhenaton and Tutankhamen, and one of his first acts was to regain Qadesh and Amurru from the Hittites, whereupon Muwatalli took the drastic and controversial step of moving the Hittite royal seat from Hattusa to Tarhuntassa (Bryce 1989b, 8; 1998, 251–255). Hostilities culminated with the Battle of Qadesh between Muwatalli and Ramesses II in 1275/1274 B.C. (Bryce 1998, 256–263), after which a stalemate stood for the rest of the century. Instability in western Anatolia drained Hittite resources and manpower and represented a significant threat to their interests in the east. Keeping these fractious minor states in hand under loyal vassals was thus crucial. It was an aim that was not always achieved.

A further series of events involving Piyamaradu took place under Hattusili III (1267–1237 B.C.), as recorded in the Tawagalawa letter (written by Hattusili III to a king of Ahhiyawa; Garstang and Gurney 1959, 111–114; Bryce 1989a, 300–301; 1998, 321–324; text in Hoffner 2009, 296–313). Following an uprising in the Lukka lands, some groups of the rebel factions were brought by Piyamaradu to Tawagalawa to seek asylum in Ahhiyawa. Others, apparently loyal to the Hittites, were forcibly removed by Piyamaradu to Ahhiyawa, and they appealed to Hattusili for rescue. Hattusili moved against Piyamaradu's troops in Iyalanda (probably in the region of later Alinda, east of Miletos) and successfully captured it, but failed to apprehend Piyamaradu, who got to Millawanda and from there escaped by ship (Bryce 1989a, 300; Niemeier 1999, 152). He thereafter vanishes from the records, although, as Bryce (1998, 323) notes, his activities may have continued for some time.

Certain passages of the Tawagalawa letter highlight the depth and extent of Mycenaean-Luwian interaction. One notes that the "wife, children and household" of Piyamaradu had been left behind in Ahhiyawa, and that Piyamaradu himself regularly sought refuge there when confronted in Anatolia by the Hittites, only to return when they withdrew (Bryce 1989a, 300; Hoffner 2009, 310; see also Houwink ten Cate 1983–1984, 36–37). A central point of the letter was to ask the king of Ahhiyawa to stop permitting this to happen, but what is of interest here is that Piyamaradu's positioning his household in Ahhiyawa suggests a high degree of trust and intimacy between Mycenaean and Anatolian elites. The marriage between a daughter of Piyamaradu and the governor of Miletus is also relevant.

Interestingly, such intimacy probably extended beyond elite levels of society. In another passage, the Hittite king complains that some 7,000 people had been (or were in the process of being) moved from the Lukka lands to Ahhiyawan territory (Hiller 1975, 395; Morris 2001a, 427; Bryce 2002, 259; Hoffner 2009, 300, 309). Population movements of this type were not uncommon in the Hittite world (Bryce 1986, 8; 1998, 236–238), although this is the only one known that involved the Ahhiyawans. After the suppression of the Aššuwa confederation Tudhaliya I/II moved some 10,000 persons from their homeland to a place near Hattusas (Bryce 1998, 135), and, as noted above, Mursili II claims to have moved some 65,000 people from Arzawa (Gurney 1990, 96; Bryce 1998, 214). Similarly, the "population, the cattle and the sheep" of the Land of Hapalla were removed to Hattusa following a successful attack under Suppiluliuma I (Bryce 1998, 165), and the same was done when Suppiluliuma took Carchemish (Bryce 1998, 194). Hittite motivations were primarily to prevent further unrest by dislocating potentially combative populations; subsidiary reasons included gaining labor resources and troops and establishing stakes in hostage negotiations. Why the Ahhiyawan king might have wanted (and been able to) move some 7,000 persons from the Lukka lands is less clear, but what is interesting is the extensive contact between people at every level of society that such dislocations must have brought about. Bilingualism and intermarriage would have been commonplace and, again, this was a more multicultural world than has sometimes been envisaged (Bryce 2002, 259–261; also Morris 2001a, 427).

A final episode involving the Ahhiyawans took place in the reign of Hattusili's son, Tudhaliya IV (1237–1209 B.C.). It began with an uprising in the Seha River land against the aging and heirless Hittite vassal Masturi, in which the usurper, Tarhunaradu, was said to be supported by the Ahhiyawans (Bryce 1998, 337–339; Hawkins 1998, 30). Tudhaliya crushed the rebellion, captured Tarhunaradu, and moved him with his family to a city in the Hittite homeland. A vassal descendant of a different royal line was placed on the throne (a descendant of Muwawalwi, father of Manapa-Tarhunda). These events set the scene for those described in the Milawata letter (Milawata being a later form of Millawanda), which was written by Tudhaliya IV to a ruler who was probably Tarkasnawa, king of Mira, rather than the ruler of Milawata as previously believed (Bryce 1989b, 14–16; 1998, 340–341; Hawkins 1998, 1, 19, 28; text in Beckman 1999, 144–146; Hoffner 2009, 313–321). Tudhaliya was seeking the release of a man, Walmu, to be restored as a Hittite vassal ruler in Wilusa. An exchange of hostage populations was discussed, and a reference was made to a joint military action on the frontier of Milawata by Tudhaliya and (probably) Tarkasnawa (Hawkins 1998, 19 n. 89, 28). The outcome of the conflict is unknown, but possibly Miletos was raided or even temporarily occupied (Singer 1983, 214–215; Bryce 1989b, 7–9; Mee 1998, 143; Niemeier 1998, 38; 1999, 153; 2005, 17, 19–20). The reference to a ban on trade between Ahhiyawa and Assyria via Amurru (a Hittite vassal state) may also date to this period (Bryce 1989a, 304–305; 1998, 343; Cline 1991b); the document concerned (the Sausgamuwa Treaty) is the one with the notorious erasure of the king of Ahhiyawa from the list of "Great Kings."

The above episodes illustrate sustained interaction between Ahhiyawans, Luwians, and, to a lesser extent, Hittites over a period of some two centuries. The general picture is of complex and changing alliances, in which the Ahhiyawans played a marginal, but not insignificant, role. A central point is the personal nature of the relations: these elite individuals seem to have been well acquainted with one another, whether in enmity or friendship. They knew each other's names even where there had not been close personal contact, although there often was, and had a general sense of affairs concerning one another, even where a considerable amount of posturing or downright treachery had been involved.

This general picture fits well with the abundant evidence for linguistic and other types of social and technological borrowings (Niemeier 1998, 43; Shelmerdine 1998, both with further references). Elements of eastern mythology were incorporated into the Greek repertoire already in the Bronze Age (West 1997; Bryce 2002, 261–268; Wiener 2007, 15), and some were specifically Hittite/Anatolian (West 1997, 426–427, 479–480, 589–590). Anatolian influence on Mycenaean building technology has often been noted: the Lion Gate at Mycenae and corbeled galleries at Tiryns, for instance, may have been modeled on structures at Hattusas (Niemeier 2003, 107; Wiener 2007, 14,

both with further references). It is interesting that when Piyamaradu raided Lesbos, skilled craftsmen, probably purple-dyers, were particularly targeted (Niemeier 1999, 151; Singer 2008, 21–22, 31–32; see also Houwink ten Cate 1983–1984, 46–47, 51–55). These persons came into the hands of Atpa, governor of Millawanda, implicating Ahhiyawan involvement in such activities and giving yet another example of opportunities for social interaction and sharing of various sorts of knowledge.

To sum up, Mycenaean contact with Anatolian societies was active and sustained. There is no evidence in the Hittite sources that any of the persons involved were specifically from Pylos, but that Messenians knew of and had relations with Asia Minor is indicated by the presence of the Anatolian women in the Pylos Linear B tablets, and there is of course ample evidence for Pylian seafaring (Killen 1983; Chadwick 1987; Hocker and Palaima 1990–1991; Palaima 1991). As Morris (2001a, 429; see also 433) rightly observed, *Potnia Aswia* "belongs to a network of cultural as well as historical interfaces between Anatolia and the Aegean, with Luwian-speaking western Asia as the primary zone of contact, more faintly reflected at Hittite and Mycenaean centers." In this context of contact, diplomacy, and cultural interaction, a gift from the palace at Pylos to a deity in Anatolia would not be surprising. In fact, gifts of this type were common in the international scene of the time, and a brief further word on this is warranted.

Perfumed Olive Oil on the International Political Scene

Gifts of perfumed olive oil were commonplace in the cultural milieu of the eastern Mediterranean in the Late Bronze Age. Ioannis Fappas (2011, 2012), for instance, has recently collected instances of kings sending oil to their counterparts on the occasion of an ascension to the throne. The practice was not only standard but expected, and a king might complain of a breach of diplomatic protocol were the gift neglected, as Hattusili III did to Adad-Nirari of Assyria (Bryce 1998, 302):

> Did not my father send you fine gifts? When I assumed kingship, you did not send me an ambassador. It is the custom that kings assume the kingship, and (other) kings and their nobles send him fine gifts, a royal mantle, and pure oil for unction.

Perfumed oil was also commonly sent in connection with marriage negotiations and weddings. For instance, in one of the Amarna letters (EA 31; see also, e.g., 11, 14, 25, 34) the pharaoh sent perfume to the daughter of the king of Arzawa (Moran 1992, 101):

> Behold, I have sent to you Iršappa, my messenger (with the instruction): "Let us see the daughter whom they will offer to my majesty in marriage". And he will pour oil on her head. Behold, I have sent to you a *sack* of gold; it is (of) excellent (quality) . . .

The long-distance shipment of offerings was common in the classical world. Delphi received gifts from Anatolian kings according to Herodotus (1.14), and the cult of Artemis at Ephesus was also highly international (Morris 2001b). Cities around the Aegean sent tribute to Athena and first fruits to Demeter at Eleusis under the Athenian empire (Price 1999, 65, 80–81). Thomas Palaima (1989, 117) lists several examples of sacrificial oxen being sent long distances in support of his persuasive argument that similar instances may be attested in Linear B, and as he noted: "Distance, on land or sea, is obviously no impediment to fulfilling an important religious or diplomatic obligation."

Conclusion: Pylian Perfumed Oil Abroad?

In conclusion, while it cannot be discounted as a possibility that the offering to the "Lady of *Aswia*" in Fr 1206 was intended to celebrate a foreign goddess at a local shrine in Messenia, it may be more

likely that the disbursement was indeed intended to be sent to her home territory in Anatolia. This would both explain the uniquely large amount of the offering and account for questions such as why a foreign deity should be singled out to receive more oil than important local deities such as Poseidon. The "Divine Mother" of Fr 1202 may similarly have been a deity located at a sufficient distance to make a large single shipment appropriate.

Morris (2001a, 429–430) suggests associating *Potnia Aswia* with Apasa, and it is not impossible that the offering was actually intended to go to Ephesus, especially given the long-standing connections between Ahhiyawans and dynasts of Arzawa. There is some evidence for cult in the Artemesion in the Bronze Age (Bammer 1990, 141–142, fig. 12, pl. 15; 1994, 37–40; 1999; Mee 1998, 140; Niemeier 1998, 40; Morris 2001a, 430–433; 2001b, 137, 140; Kerschner 2003; Büyükkolancı 2007), and Mycenaean artifacts including figurines and stirrup jars were found there. Mycenaean finds in the temple had led to speculation that the foundation was itself Mycenaean (Bammer 1994, 38; Niemeier 1998, 40–41), but there is no reason to suppose that the temple was not, like Ephesus itself, Luwian. However, the Mycenaean objects (esp. the figurines) may well be significant in terms of showing knowledge of "foreign" cults. Note that the suggestion here that the oil in Fr 1202 and 1206 was to be shipped abroad does not speak against Morris's (2001a, 429) discussion of "transported deities"; it would simply mean these tablets do not happen to be examples of this phenomenon.

With regard to *ma-te-re te-i-ja*, it is interesting that the title *Mētēr Theiōn* had particular currency in Anatolia in the first millennium B.C. and was imported from there to the Aegean in the Classical period (Morris 2001a, 423, 429). Gérard-Rousseau (1973, 164) made the same observation although, as she rightly notes, titles of this type are common in many ancient religions, so a foreign connection for this goddess on the basis of the name alone is purely speculative.

Cynthia Shelmerdine convincingly argued in 1985 that the Pylian perfume industry was capable of producing sufficient amounts of perfumed oil to allow for some of it to have been intended for export. There are all sorts of trade, and while offerings are in one sense not "trade" since they ostensibly travel in a single direction, from another point of view they are of course deeply "economic": commodities are changing hands. And even if they did so in only one direction in the instance suggested here, like any other reciprocal exchange the gift would have contributed to the ethos of good will essential to creating trade relationships. The two large offerings recorded in the Fr documents of Pylos may hint at such transactions within a wider network of contact and exchange, a world that Pylos belonged to and had its own rightful place within.

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CHAPTER

13

Offerings for the *Wanax* in the Fr Tablets: Ancestor Worship and the Maintenance of Power in Mycenaean Greece

Susan Lupack

As my offering for Cynthia, I will be addressing a topic that was inspired by one of her own major contributions to Linear B studies—her detailed and comprehensive analysis of the Fr series (Shelmerdine 1984, 1985), which, appropriately enough, predominantly records offerings—those of perfumed oil sent by the palace to the religious sphere.* My offering here is meant to acknowledge

*It is a real pleasure to dedicate this work to Cynthia Shelmerdine. Her influence on my life has been immeasurable. I still recall the first time we met; my acceptance into the graduate program at the University of Texas was hanging in the balance, and after a few formal questions she asked simply, "Why do you want to study the Bronze Age?" I don't remember the exact wording of my reply; I know that it was not terribly well informed, but it was definitely enthusiastic. Cynthia replied, in her typical manner, "OK, that's good enough for me!" Once I started my career at UT Austin, she conscientiously mentored me through the (many) years it took for me to get my degree, acting not only as a guide for my academic career within the department, but also as a tutor in the field as she taught me the art of reading ceramic evidence. She was also more than an academic mentor—she stood as a firm support for me when my life took turns for the worse. And of course she was also there to celebrate good fortune with me. As the prime advisor of my dissertation, she worked with me over long distances (as I moved from Texas to New York and then to Tokyo) to extract the best thesis possible from me. I feel this struggle made my ultimately successful defense all the more meaningful for both of us, and I know I felt her pride as she greeted me for the first time as "Dr. Lupack." Of course I cannot fail to mention that the most touching gift I received from Cynthia is the soft blue blanket that she knitted herself—it was meant for my firstborn son, and the fact that I received it after my daughter was born made it all that much more dear to me. The relationship grows and continues. Thank you, Cynthia.

Bracketed tablet numbers indicate that the text is not complete. Nonetheless, enough of the text is legible in each case for us to reliably assign it to the Fr series.

that in everything I write, I am always standing on Cynthia's shoulders. The Pylos Fr series is large, comprising 51 extant tablets (excluding Fr 1255; Shelmerdine 1985, 65–66), all of which are concerned with olive oil. Shelmerdine (1984; 1985, 63–121) analyzed the Fr tablets according to their findspots and scribal hands, and thereby demonstrated that there was a definite organization and hierarchy within the perfumed oil department that had not previously been recognized. She found that the several scribes who wrote the Fr tablets were each responsible for only one type of oil (although several were assigned to one type: OLE+*A*), except in the case of Hand 2, a scribe who may have overseen the perfumed oil department (Shelmerdine 1985, 68) along with several other palatial interests (Kyriakidis 1996–1997, 207, 219–220). Furthermore, the activity of most scribes was confined to one of the three rooms where the tablets were found; again, the exception to this rule was Hand 2, whose tablets were found in several rooms (Shelmerdine 1985, 68). This information indicates that there were separate departments within the perfumed oil industry, each of which handled a different type of oil.

Shelmerdine also recognized that while the majority of the Fr tablets record disbursements of oil, many of them as religious offerings, nonetheless the tablets were not solely concerned with such disbursements. Rather, the scribes recorded several different types of transactions involving the palace's supply of treated and perfumed olive oil (Shelmerdine 1985, 78). Shelmerdine highlighted the fact that the Fr series also recorded inventories of oil (e.g., Fr [1200], 1201, 1203, and [1208]); the amounts on these tablets are generally much greater than those found on the allocation records. Other records describe the oil as *qe-te-jo* (Fr 1206 and 1241), meaning that it was still owed and would have to be paid by the palace at some point in the future—possibly as part of a religious fine (Killen 1979, 169–170; Hutton 1990–1991). Another tablet, Fr 1184, records the details of a quantity of treated oil that was to be transferred within the palace along with a delivery of stirrup jars. This was also the only tablet of the series found within the Archives Complex. The rest of the tablets were found in the rooms where the oil was stored, principally in Room 23, which was most likely the main office that dealt with the management of the perfumed oil and its disbursement to various recipients. One of the main issues surrounding the Fr series concerns the nature of those recipients: the debate usually centers on whether all the recipients were affiliated with the religious realm or not. In this area Shelmerdine took a commendably cautious approach, which I endeavor to emulate. But herein I will hazard to argue that one of the recipients that she saw as secular may have been religious.

The Nature of the Fr Series

The basic information that each disbursement record had to convey was the amount of oil being disbursed, what kind it was (e.g., scented with rose or sage), the intended recipient of that oil, and the address to which the oil was to be sent. The first two types of information concerning the oil itself were stated in a fairly straightforward manner, but the recipients and their addresses were conveyed in a variety of ways. In two cases, on Fr 1226 and 1236, a clear location is provided alongside the name of the recipient. On Fr 1226 the location is *ro-u-si-jo a-ko-ro*, the Lousian field, while the sage-scented oil is being sent to the gods (*te-o-i*).

Fr 1226
.1 ro-u-si-jo , a-ko-ro , te-o-i , pa-ko-we OLE+*PA* V 3
.2 *vacat*

But on several tablets the scribe simply named the recipient, as on Fr 1224:

Fr 1224
.a pa-ko-we , e-ti-we
pa-ki-ja-ni-jo-jo me-no , po-se-da-o-ne OLE+*PA* Z 2

This tablet can be translated as "In the month of *pa-ki-ja-na*, for Poseidon, sage-scented, henna-dyed oil, Z 2." We can surmise then that in this

case the named recipient, Poseidon (who also appears on two other Fr tablets, 343 and 1219), must also have served to indicate the location to which the oil was being sent. In addition to Poseidon, oil offerings are also sent to Potnia (the main female deity of Pylos), who appears five times within the series: twice without any epithet (Fr 1231 and 1235), twice as *u-po-jo po-ti-ni-ja* (Fr 1225 and 1236), and once on Fr 1206 as *po-ti-ni-ja a-si-wi-ja*. Two other named deities appear in the series: the Mother of the Gods (*ma-te-re te-i-ja*) on Fr 1202 and the Thrice Hero (*ti-ri-se-ro-e*) on Fr 1204 (who also appears on Tn 316.4). Finally, on Fr 1226 and 1355 we see offerings being sent simply to the gods (*te-o-i*). In all of these records, the name of the deity must also have served to indicate the location to which the oil was being sent.

On several other tablets a location was supplied, but the recipient was left out, which means that in those cases the location must have served to indicate the intended recipient of the oil. For example on Fr 1230, the oil was sent to the *di-wi-jo*, or to the sanctuary of Zeus (which is also mentioned on Tn 316 *v.* 8 as *di-u-jo*):

Fr 1230
di-wi-jo-de OLE+*A* V 1

Presumably, it was Zeus who was meant to receive this offering at his sanctuary. In other cases the intended deity is not as clear to us as on Fr 1230, although it must have been clear to the scribes who were using these records. For instance, oil is sent to the sanctuary of *pa-ki-ja-na* on four tablets (Fr 1217, 1233, [1209], and [1211]). It is fairly safe to propose that Potnia was the deity most likely understood as the recipient in these cases, given her preeminent association with the sanctuary on Tn 316, but we cannot be sure. (One may even wonder if it was left up to the priests and priestesses of the sanctuary to decide.)

In some cases the oil is sent to a group, rendered in the dative plural, whose members were most likely not deities but cult personnel working within a sanctuary in the service of a deity (or deities). For instance, on Fr 1216, we see the *pa-ki-ja-ni-jo-i*, or the Pakijanians, who must have been working at the sanctuary of *pa-ki-ja-na*.

Fr 1216
.1 pa-ki-ja-ni-jo-i , pa-ko OLE+*PA* 1 V 2
.2 *vacat*

Thus these people physically received the oil on the behalf of a deity, and their inclusion on the tablet must also have functioned to indicate the location to which the oil was being sent (Bennett 1958, 33).

From these examples, it is apparent that many of the recipients of the oil in the Fr series are associated with the religious realm and that the disbursements of oil can be identified as religious offerings. But the debate concerning the nature of the recipients arises from several allocation records that cannot be so readily associated with the religious sphere. For instance, Lisa Bendall (2007, 101) has proposed that line 2 of Fr 1231 could be interpreted as having a secular context. The first line of Fr 1231 records an offering for Potnia, but the end of the entry is missing and it is not clear whether there was an amount registered there or not.

Fr 1231
.1 po-ti-ni-ja , di-pi[-si-]jo-i , te[
.2 ke-se-ni-wi-jo[ ]OLE S 1 [

An amount is recorded on the second line—after the word *ke-se-ni-wi-jo*[, or /*ksenwion*/, meaning "as a guest gift" or "for guests" (Shelmerdine 1985, 79). The two lines have been interpreted as constituting one entry with Potnia as the intended recipient (Bennett 1958, 59–60; Ventris and Chadwick 1973, 477–478; Shelmerdine 1985, 79–80). But it is also possible that the second line was meant to stand on its own as a second entry that had nothing to do with Potnia, in which case the oil meant for guests would be left without a sure religious association (Bendall 2007, 101). Another ambiguous case is presented by the *a-pi-qo-ro-i*, or "attendants," who appear on Fr 1205. Scholars such as John Bennett (1958, 44) and John Chadwick (1985, 197) have associated them with the religious sphere simply because of the religious context of most of the Fr tablets. Chadwick (1985, 197) said, "since these humble women would then be an unsightly blot on a predominantly divine picture, it would seem that in this context we should provisionally grant them divine status." They could also reasonably be interpreted as attendants who were

working within a sanctuary. However, as Shelmerdine (1985, 97–98) has pointed out, it is also possible that, like other attendants recorded at Pylos (on Aa 804 and Ad 690), they could just as well be working within a secular context, perhaps at the palace itself, since no other place indication is given on the tablet. Shelmerdine also raises the possibility that they could be associated with the shrine located in Room 93 of the palace, but she deems it more likely that they were secular workers. The truth is that we cannot know for sure what the affiliations of these attendants were based simply on the evidence of this one tablet.

Shelmerdine makes a similar argument concerning another, somewhat more prominent figure who appears on several Fr tablets as the recipient of oil, namely the *wanax* himself. Of course, where the *wanax* is concerned, the debate is much more complicated, and the implications of our interpretation of the texts in which he appears are far more significant. The question has been whether to accept that the mortal *wanax* received perfumed oil next to deities such as Potnia and Poseidon. If we accept that he did, what does that mean about the nature of the Mycenaean institution of kingship? Or, to propose another possibility, do we in fact have here a divine *wanax*? And if it is a reference to a divine *wanax*, what sort of divinity was he? Shelmerdine, emphasizing her idea that "the *principal* function of the series was not to record offerings, but to monitor the palace's supply of perfumed oil" (1985, 78), says that "not all of the oil would necessarily have been given to divinities; and the king might figure as a recipient without this implying either that the king himself was thought to be divine or that a separate divinity was meant" (1985, 78). She points out that "on other tablets (e.g., Ta 711) the *wanax* is clearly human; and there is no additional word on the Fr tablets to distinguish this *wanax* from him. Methodologically it seems better to assume that the human king is meant, in the absence of strong evidence to the contrary; and this not even the Fr texts seem to provide" (Shelmerdine 1985, 78).

Indeed it certainly is possible that the *wanax* recorded in the Fr series is the human king. Many scholars have discussed the prominent religious role that the *wanax* played in Mycenaean society (Kilian 1988; Wright 1994; 1995; Hägg 1995; Palaima 1995; Deger-Jalkotzy 1999, 127; Shelmerdine 1999; Whittaker 2001). Michael Galaty (1999, 79) has even proposed that the *wanax* chose to use religion and ritual to legitimate his increased political domination rather than by trying to do so through increasing the palatial administration's control over the staple economy. Thomas Palaima in particular has made the case that "the powers and authority of the *wanax* are intimately connected with—and derived from—his religious associations" (1995, 129). Palaima also presents the tablet evidence demonstrating how "the *wanax* concerned himself primarily with the performance of rituals that assured the benevolence of the gods towards his community" (1995, 130–131). Indeed, the heading of PY Un 2 specifies that the *wanax* was to undergo an initiation at *pa-ki-ja-ne*, the prime sanctuary of the Pylians, which shows his intimate connection with the religious sphere of Mycenaean society and the possibility that the religious personnel of *pa-ki-ja-ne* may have played a role in legitimizing the authority of the *wanax* (Lupack 2008, 47; 2010, 265).

Archaeological evidence also indicates that the *wanax* had a large role to play in religion: the megara of Pylos, Tiryns, and Mycenae all had cultic installations that were most likely used during rituals presided over by the *wanax* (for a summary, see Lupack 2010, 264; also see Kilian 1988, 293–294; Wright 1995). The fresco program in the megaron and its vestibule at Pylos show the type of rituals that might have been held there (McCallum 1987a, 1987b; Bennet 2007). The fresco in the vestibule depicts a religious procession with a bull being led to a shrine, while in the megaron itself we see the culmination of the intended sacrifice—a ceremonial banquet. Also, to the left of the throne, a griffin and a lion provide divine protection for the person seated there, most likely the *wanax*. Based on these indications that the *wanax* had strong connections with the religious sphere, Palaima quite legitimately argues that the offerings found on the Fr series must have been sent to the mortal *wanax*, "as reflections of the prominence and ritual involvement of the *wanaks* without any implications as to his status as a semi-deity" (2006, 64).

Other scholars, however, have argued that the *wanax* of the Fr series need not be identified with the human *wanax* who ruled the state, but rather, that he should be interpreted as representing a deity (Bennett 1958, 27; Lejeune 1958, 342 n. 33; Adrados 1961, 54; Palmer 1963, 247–258; Carlier 1984,

87–88, 90, 131; Chadwick 1985, 196–197; Ruijgh 1999, 524). Many of these scholars have found support for this alternative proposition in their interpretation of the other terms that are found in association with the *wanax* on the Fr tablets: *wa-na-so-i* and *di-pi-si-jo-i*. Chadwick (1985, 197), for instance, says, "it is hard to resist the conclusion that while the unqualified noun [*wanax*] is probably human, when accompanied by this sort of qualification [*wa-na-so-i* or *di-pi-si-jo-i*] it is divine." At this point we should examine the Fr tablets on which the *wanax* appears in order to better understand the words with which he is associated.

The *Wanax* in the Fr Series

The three tablets in the Fr series that record the *wanax* in the dative as *wa-na-ka-te* are Fr 1220.2, Fr 1227, and Fr 1235.1, while *wa-na-ke-te* (which is either a scribal variant or error for *wa-na-ka-te*) appears on Fr 1215.1.

Fr 1215
.1 wa-na-ke-te , wa-na-se-wi-jo , we-a-re-pe
.2 sa-pe-ra *RA*

Fr 1220
.1 ro-u-si-jo , a-ko-ro , pa-ko-we OLE+*PA* V 4
.2 di-pi-si-jo-i , wa-na-ka-te OLE+*PA* S 1

Fr 1227
wa-na-ka-te , wa-na-so-i , [ ] S 1 V 1

Fr 1235
.1 wa-]na-so-i , wa-na-ka-te , pa-ḳọ[-we] OLE+*PA* 1
.2]ẉạ-na-so-i , po-ti-ni-ja , pa-ko-we OLE+*PA* V 3

Upon examining these tablets, it becomes apparent that in each case the word *wanax* is found in association with one of a group of terms: *wa-na-so-i* on Fr 1227 and 1235.1, *wa-na-se-wi-jo* on Fr 1215.1, and *di-pi-si-jo-i* on Fr 1220.2. On Fr 1218 we also find the term *di-pi-si-je-wi-jo*, which is related to the *di-pi-si-jo-i* found on Fr 1220.2.

Fr 1218
.1 e-ra$_3$-ẉọ[ ]we-ja-re-pe , po- ṛọ[-wi-to
.2 di-pi-si-je-wi-jo OLE+*A* S 1
.3–.6 *vacant*

These terms are found several times in the Fr series. *wa-na-so-i* appears seven times: in addition to Fr 1227 and Fr 1235.1, we also find it on 1219 (as *wa-no-so-i*), 1222, 1228, 1235.2, and 1251.

Fr 1219
.1 *vacant*
.2 wa-no-so-i , po-se-da-o-ne OLE+*A* V 2

Fr 1222
.a OLE+*PA* V 1
wa-na-so-i , to-no-e-ke-te-ri-jo

Fr 1228
wa-na-so-i , e-re-de ọḷẹ+*PA* V 1

Fr 1235
.1 wa-]na-so-i , wa-na-ka-te , pa-ḳọ[-we] OLE+*PA* 1
.2]ẉạ-na-so-i , po-ti-ni-ja , pa-ko-we OLE+*PA* V 3

Fr 1251
]wa-na-so-i̯[ ]ọḷẹ[

The related term *wa-na-se-wi-jo* is also found on Fr 1221 as *wa-na-se-wi-ja*.

Fr 1221
po-ro-wi-to , wa-na-se-wi-ja OLE+*A* S 1

In addition to Fr 1220, *di-pi-si-jo-i* is confidently restored on Fr 1231.1 and appears on Fr 1232.1, 1240.2 (as *di-pi-si-jo*, which is possibly a scribal error), and 1338.2.

Fr 1231
.1 po-ti-ni-ja , di-p̣i̯[-si-]jo-i , ṭẹ[
.2 ke-se-ni-wi-jo[ ]OLE S 1 [
.3 *vacat* [ ] *vacat* [

Fr 1232
.1 di-pi-si-jo-i , po-ro-wi-to , pa-ko-we OLE+*P̣A̯* S 1
.2 *vacat*

Fr 1240
.1 e-ra$_3$-wo , pa-ḳọ[-we
.2 di-pi-si-jo , e-qo-[
.3 OLE+*A* V 1

Fr 1338
.1 e-qo-me-ne-[
.2 di-pi-si-jo-i[OLE

The related term *di-pi-si-je-wi-jo* is found only the one time on 1218.2, as seen above.

Leaving aside for the moment the question of how these words should be translated, it is clear from their textual associations that they are being used in religious contexts. Tablet Fr 1219.2 records the deity Poseidon as the recipient of the oil, while the offerings on Fr 1235.2 and 1231.1 are being sent to the deity Potnia. On Fr 1222, the religious festival *to-no-e-ke-te-ri-jo* is recorded as the occasion upon which the oil is being disbursed. Because the first element of the word, *to-no*, has been interpreted as representing **thórnos* (*thrónos*), or throne, as it is taken in the Ta series (Bennet 1958, 30, 52; Hiller 1969; Ventris and Chadwick 1973, 482), this festival can be rendered as the "Festival of the Throne." Recently Vassilis Petrakis (2002–2003) has proposed another possible interpretation: that *to-no-e-ke-te-ri-jo* should instead be thought of as a festival involving the bearing of flowers in processions. Another likely religious term is *po-ro-wi-to*, which is found three times in the Fr series, on Fr [1218.1], 1221, and 1232.1. This word is most commonly interpreted as the nominative form of the month name that is found in the genitive on Tn 316.1: *po-ro-wi-to-jo*, which is translated as "the month of sailing." Shelmerdine (1985, 83), however, makes the case that *po-ro-wi-to* is a recipient's name based on the idea that very often a recipient is specified with *wa-na-so-i* and *di-pi-si-jo-i*. While this is true, nonetheless it was not always considered necessary to include a specific recipient with these terms, since on Fr 1222.1 the *wa-na-so-i* appear only with *to-no-e-ke-te-ri-jo*. Also, in an analogous situation on Fr 1216 the *pa-ki-ja-ni-jo-i* appear only with the type of oil they are to receive. One month name is definitely found elsewhere in the Fr series, *pa-ki-ja-ni-jo-jo me-no* on Fr 1224, and month names are a common feature of the KN Fp series, which also records religious offerings of oil. Since time designations seem to be an important feature of religious texts, I would favor interpreting *po-ro-wi-to* as the month name rather than a recipient's name.

Thus the *wa-na-so-i* and *di-pi-si-jo-i* are consistently found with deities' names and other religious terms, and therefore they were most likely themselves associated with the religious realm.

Clarifying their grammatical form and syntactical function within the Fr series further serves to pull them together as a religious grouping. At first glance, the easiest way to take *wa-na-so-i* and *di-pi-si-jo-i*, given the *-o-i* ending, is as straightforward substantive datives. The *wa-na-so-i* and *di-pi-si-jo-i* could then function as recipients of the oil, as Hiller (1981, 111–112) has proposed. The problem with this idea is that *wa-na-so-i* appears on several Fr tablets in the company of another dative recipient, but without a connective *-qe* to link the two. Therefore interpreting them simply as recipients would require an asyndeton that is very uncommon in Mycenaean Greek.

Emmett Bennett (1958, 33) solved this problem by proposing that the persons referred to as *wa-na-so-i* and *di-pi-si-jo-i* should be taken as also indicating the place to which the oil was being disbursed. Shelmerdine elaborated on this proposal by saying that *wa-na-so-i* and *di-pi-si-jo-i* must stand for "a recipient so specifically located as to provide an address" (1985, 75). Thus the *wa-na-so-i* would stand for the address, while the second recipient was the one for whom the oil was primarily allocated, in other words, the one to whom the oil was being offered. Grammatically, Shelmerdine (1985, 77) has explained this double dative construction as an indirect object with a dative of advantage, and the general translation of such phrases would then be "to the X for Y." For instance, for Fr 1227 we can translate, "to the *wa-na-so-i* for the *wanax*."

This usage is paralleled by Fr 1216, which records the *pa-ki-ja-ni-jo-i*, or the Pakijanians, receiving a large amount of oil. As a dative plural substantive, the Pakijanians must indicate the recipients of the oil. But since no other indication of a place is provided on Fr 1216, they must also serve to indicate the place to which the oil was to be delivered. In this case, one can easily see the dative substantive *pa-ki-ja-ni-jo-i* as implying a location, since the name from which it was derived (*pa-ki-ja-ne*) has long been interpreted as a place name. It seems, then, given this parallel and the above arguments, that we should also consider the *wa-na-so-i* and *di-pi-si-jo-i* as groups of people whose names were clearly associated by the Pylian scribes with a specific location.

The two words (already mentioned above) that appear to have been formed from the same roots as *wa-na-so-i* and *di-pi-so-i*, *wa-na-se-wi-jo/ja* (Fr 1215 and 1221) and *di-pi-si-je-wi-jo* (Fr 1218), can be interpreted as the places that the *w-an-a-so-i* and the *di-pi-si-jo-i* were associated with. The two words are used in parallel but mutually exclusive

situations to *wa-na-so-i* and *di-pi-so-i*. Therefore, they too should be taken to indicate the location to which the oil was to be delivered. Shelmerdine (1985, 78–79) points out that the scribe who used the form *wa-na-se-wi-jo*/*ja* (S1219-Cii on 1215.1 and 1221) and the one who wrote *di-pi-si-je-wi-jo* (S1217-Cii on 1218.2) are—for the most part—different scribes from those (predominantly Hand 2) who used the forms *wa-na-so-i* and *di-pi-si-jo-i* (on Fr 1219.2, S1219-Cii wrote *wa-no-so-i*, which must be his own variant or an incorrect spelling). This implies that the scribes simply happened to have their own preferred way of designating the place of the *wa-na-so-i* and the *di-pi-si-jo-i*. Shelmerdine (1985, 79) also points out that, "in Classical Greek, the ending *-eion* is often used to form a word describing a place of occupation that is derived from the names or occupational designations of the people to be found there." Hence we have the **wanaseion* because that is where the *wa-na-so-i* were located, and similarly we would have a **dipsijeion* where the *di-pi-si-jo-i* were found.

Considering the religious offerings that were sent to the *wa-na-so-i* and the *di-pi-si-jo-i* for recipients such as Potnia and Poseidon, it seems most likely that the words *wa-na-se-wi-jo*/*ja* and *di-pi-si-je-wi-jo* can be identified specifically as sanctuaries (Bennett 1958, 47; Hiller 1981, 112). If so, then the *wa-na-so-i* and *di-pi-si-jo-i* should be taken as the religious functionaries attached to these sanctuaries (Adrados 1964, 139). Jörg Weilhartner (2005, 123) has come to a similar conclusion in his recent analysis of the Fr tablets, saying that the *wa-na-so-i*, *di-pi-si-jo-i*, and *pa-ki-ja-ni-jo-i* represent groups of cultic personnel who received oil for their respective divinities. It seems reasonable to suggest that both the sanctuary and the religious functionaries were named after the main deity of the sanctuary: in the case of the *wa-na-se-wi-jo*/*ja*, the deity's name was related to the term *wanax* (perhaps **wa-na-sa*, the queen [Aura Jorro 1985, 399]) and for the *di-pi-si-je-wi-jo*, perhaps *Dipsios* (which, since it is related to the verb "to be thirsty, has been taken to indicate either the Earth [Adrados 1968] or a deity of the underworld [Guthrie 1959; see Aura Jorro 1985, 175–176]). It is interesting to note that in addition to **wa-na-sa*, at least two other deities were worshipped at the *wa-na-se-wi-jo*/*ja*: on Fr 1219.2 the *wa-na-so-i* receive oil for Poseidon, and on Fr 1235.2 the offering is specified for Potnia. It does not seem to have been unusual for several deities to have been worshipped at one sanctuary, as we can also see on Tn 316.2–5 where, besides Potnia, the deities *ma-na-sa*, *po-si-da-e-ja*, *ti-ri-se-ro-e*, and *do-po-ta* all received offerings at the sanctuary of *pa-ki-ja-ne*.

The oil sent to the *wanax* on the Fr tablets was, then, almost certainly sent within a religious context and with a religious purpose. This interpretation is in accord with work done recently by Bendall on the nature of the Fr tablets. Bendall (2007, 102) has shown in detail, as Shelmerdine had noted before her (1985, 151–152), that the evidence of the tablets suggests that the total amount of oil the palace had available to it was much greater than that recorded in the Fr series. Bendall calculates that "something on the order of 11%–34% of oil at Pylos was disbursed for religious purposes, as calculated from the surviving documentation" (2007, 103) and at Knossos, that figure is 6%–9% (Bendall 2007, 138). However, the oil on the religious offering tablets at Pylos accounts for a minimum of 71%, probably 87%, and possibly 100% of all the oil recorded on the disbursement records (Bendall 2007, 102). This caused Bendall to comment, "In sum, it may be suggested that the main purpose of the Fr series, after all, *was* to record offerings" (2007, 286). Weilhartner (2005, 133) also, because of the close unity of the series as a whole, thinks it legitimate to conjecture that all the recipients of the Fr series were religious in nature. Hence, the oil sent to the *wanax* of the Fr series was almost certainly a religious offering. And while, as I agreed above, it may be possible that the mortal *wanax* was to receive the oil in recognition of, or as part of, the role that he played in the religious realm, nonetheless, given that the Fr allocations are more clearly actual offerings, I think it is worth revisiting the possibility that when the term *wanax* is used on the Fr tablets, it actually indicated a full divinity, and did not refer too the mortal ruling *wanax* at all.

Other scholars have proposed various possibilities for the identity of the deity represented by the term *wanax*. Michel Lejeune (1958, 342 n. 33) and Pierre Carlier (1984, 90, 131; 1998, 414) have surmised that the word *wanax*, when seen in situations where he is receiving offerings, was actually used as an epithet to refer to a specific deity within the Mycenaean pantheon, such as Poseidon or

Zeus. Carlier (1984, 131) favors Poseidon because of his prominence on the Pylian tablets, but he allows that it could easily have been another deity. I, however, would like to propose that the term *wanax* did not refer to any of the deities that we are already familiar with on the Linear B tablets but that it did indeed refer to a Mycenaean *wanax*, specifically to an original or ancestral *wanax*, that is, the *wanax* who was thought to have founded the institution of the *wanaktes* and who was probably considered the forefather of the *wanax* governing Pylos when the palace was destroyed. The worship of such a figure could only have served to strengthen the current ruler's claim to the position.

The possibility that a figure such as the "ancestral *wanax*" could have played a prominent role in Mycenaean religion has been suggested by recent scholarly discussions concerning the institution of the *wanax* in Mycenaean society and how it was founded. Palaima (1995, 125) discussed how, at the end of the Middle Helladic (MH) period, a transition took place from a "society with many locally based chieftains (each a *basileus*) to one in which single figures (each a *wanax*) held power over the local communities." He goes on to say that "this transition would have entailed a process whereby the *wanax* could be singled out and placed at a level well above the *basilees*," and that this would have involved "the creation of an ideology that would justify and sustain this differentiation" (Palaima 1995, 125). More recently Palaima (2006, 53, 57) has analyzed the etymological underlying meaning of the word *wanax* by comparing it to the Hittite term for king, *hassu*-, which can be connected to the word *hassa*-, meaning "progeny, issue, offspring, descendant." He therefore proposes that the word *wanax* should also be linked "with birth, begetting and fertility" and then with "lineage" (Palaima 2006, 57). Palaima concludes: "We would then derive the original meaning (and ideological basis) of the term *wanaks* not from the specific roles and functions the *wanaks* is seen performing in the Linear B tablets and the Homeric poems, but from a fundamental and primal Indo-European notion that is at the very basis of his power and authority: linkage through blood-ties to ancestral and divine power and guarantor through his own fertility of the purity and health of his people" (Palaima 2006, 57). Kilian (1988, 294) has suggested that the *wanax* may have used the institution of an ancestor cult as part of his "complex ideology" and as a way to demonstrate his distinctive association with the divine sphere. James Wright (1991, 1995) has also discussed the idea that as the *wanax* established his new power base and broke away from the Cretan forms of government, there could have been "a heightened emphasis on ancestor worship and an accentuation of the societal role played by ancestors, especially those of the royal family" (Wright 1991). It makes good sense, then, that an important part of the ideology surrounding the subsequent *wanaktes* would have entailed the elevation of their innovative ancestor, the creator of the position of *wanax*, to divine (or at least heroic) status.

Evidence for the idea that ancestors were heroized and worshipped by the Mycenaeans can be found in the fact that a deity named *ti-ri-se-ro-e*, or the Thrice Hero, is found twice on the Linear B tablets receiving offerings, on Fr 1204 and Tn 316.4. Evidence that may be even more closely related to the *wanax* himself may be found in the festival recorded on Fr 1222 in association with the *wa-na-so-i*, the *to-no-e-ke-te-ri-jo*. As mentioned above, most scholars (except Petrakis 2002–2003) interpret *to-no-* as **thórnos* (*thrónos*), or throne. The verbal *-e-ke-* part of *to-no-e-ke-te-ri-jo* has given rise to several different ideas as to what was being done with the throne, however. Bennett (1958, 30) translated it as the "festival of the dragging of the throne," while Michael Ventris and Chadwick (1973, 482, 586) preferred "the festival of the holding of the throne." Stefan Hiller (1970) proposed "anointing of the throne" or the "ceremony of offering libations to the throne." Whichever interpretation of the verbal part of the word is preferred, the most significant thing in the present context is that the ceremony most likely (*pace* Petrakis) centered around a throne. If this interpretation of *to-no* is accepted, then we can imagine that the throne was used during the ceremony as a symbol to represent the power of the personage who sat on it. Of course that personage may have been a deity like Zeus or Poseidon, but the throne was an important part of the visual imagery that was used by the *wanax* to emphasize his singular position in the megaron and, thereby, in the state. The throne may also have been among the regal trappings that were adopted by the initial *wanax* from the Minoans in order to express his new

ideology (Palaima 1995, 137). Thus it seems possible that the deity who was honored with this festival was the ancestral *wanax* himself—the one who first sat in that great symbol of power.

The Ancestral *Wanax* in Grave Circle A?

Archaeological evidence may also be adduced to support the idea that worship of an ancestral *wanax* was part of Mycenaean religion. The building program at Mycenae in particular can be taken to show not only the *wanax*'s desire to demonstrate his great power but also his links to the rulers of the past. Wright (1987) notes that the construction techniques used in building the latest of the tholos tombs at Mycenae (i.e., those of Atreus and Clytemnestra) are the same as those used to build the Lion Gate and the southwest extension of the fortification walls that brought Grave Circle A within the city. Wright (1987, 179–180) links all these building projects together as "a well-conceived building program by the reigning group at Mycenae to advertise itself as the sole and legitimate heir of power." A person who was walking up the road to the citadel of Mycenae from the Argive Plain would have first encountered the tholos tomb of Atreus, then that of Clytemnestra, and then as he walked through the impressive Lion Gate he would have seen the monumentalized Grave Circle A. Wright (1987, 181) says, "Anyone coming through the gate, already having passed the tombs, would already be sensitive to the suggestion of the relation between the power of the dead and the living rulers. The re-erected stelai [of Grave Circle A] would clearly evoke the concept of the lineage of power (regardless of its authenticity) at Mycenae." Mary Dabney and Wright (1990, 52) also discuss how "the establishment of monumental ancestor cult settings during the LH IIIB period" demonstrates the "Mycenaean emphasis on the importance of persons, in this case probably putative ancestors of the ruler." Thus, the *wanax* of Mycenae ca. 1250 B.C. may have been visually stating and affirming his connection with the ancestral *wanax* in this monumental architectural display.

Recently, Charles Gates (1985) and Robert Laffineur (1990, 1995) have challenged the idea that the renovation of Grave Circle A was done in order to honor specific ancestors. Gates has even proposed that the burials of Grave Circle A had been all but forgotten between the time of the final burials in the shaft graves (Late Helladic [LH] I/II) and the late LH III period. Gates details the "mistakes" that the LH IIIB Mycenaeans made in their reconstruction of the Grave Circle: for instance, the peribolos wall was actually built over the northern edge of Grave VI, and only four of the six shaft graves had their stelai repositioned correctly in the remodeling. His point is that the memory of the LH IIIB Mycenaeans concerning the positioning of the graves and their contents was "hazy," and that "their motivation in constructing Circle A cannot be explained exclusively by a concern to preserve and protect those early burials" (Gates 1985, 268). Gates says that instead the Mycenaeans of the LH IIIB period refurbished the grave circle in an attempt to "connect their world with the revered era of their shadowy forebears" (Gates 1985, 272). In this Gates and I agree. The reconstruction of Grave Circle A was most likely not done purely out of pious regard for those buried there. Rather, it seems more likely that the particular *wanax* who commissioned the work was politically motivated; he was making a statement. And since the Mycenaeans of the LH IIIB period did accurately remember the positions of four of the graves, it seems likely that their memories of the people buried there and the importance that was associated with them became focused on those four graves. The precise details of who was buried where may have been revised over time, but the general significance of the graves to their society was not forgotten. Carla Antonaccio agrees, saying, "Certainly the LH IIIB builders adopted Circle A and gave it a place of prominence within the citadel" (1995, 50), and she points out that "the truncating of Grave VI in Circle A by the LH double wall, and the incomplete covering of Circle B by the tumulus of the Tomb of Clytemnestra, argue only against a clear tradition about the sites, not the absence of such a tradition or total ignorance of the local topography." It seems likely therefore that the graves and their occupants were mythologized and may have gained in status because of what they symbolized for the Mycenaeans.

Laffineur (1990, 1995), in his attempts to revise our understanding of the meaning of Grave Circle A for the late Mycenaeans, reviews the construction phases of the Granary to the north of Grave Circle A, which was built after (but not long after) the renovation of Grave Circle A in the LH IIIB period. When the Granary was first built, its walls respected the space around the grave circle and left its entrance easily accessible. But as time went on, corridors were added to the Granary that obscured the grave circle's entrance, and, finally, a wall (22) was built that made it difficult to approach the grave circle. Based on the fact that such incursions were made into the space surrounding the grave circle, Laffineur infers that Grave Circle A was actually a monument of little importance to the Mycenaeans of the LH IIIB period (Laffineur 1990). There is, however, a different explanation for the crowding in that area. It seems that at Mycenae, as at Pylos in the LH IIIB period (Wright 1984; Shelmerdine 1987; 1992, 394), it was considered necessary to bring important buildings closer into the palace where they could be less easily pillaged. The incursions of the Granary on the space surrounding Grave Circle A could be due more to a lack of space considering the need to build within the city walls rather than to an utter disregard for the importance of Grave Circle A. With this view, the fact that the Mycenaeans refrained from building over the grave circle when they clearly could have used the land indicates instead that the ruler(s) of the time must have retained their respect for Grave Circle A and what it symbolized.

In a subsequent article, Laffineur (1995) reviewed the levels of the funerary stelae that were reerected over the shaft graves and questioned whether they were set up at the time of the renovation of Grave Circle A. Despite the difficulties posed by Heinrich Schliemann's incomplete excavation records, Laffineur feels that the best interpretation of the available evidence brings the stelae to a level higher than that of the base of the peribolos wall. He proposes, therefore, that the stelae may actually have been reerected during the LH IIIC period (or later) instead of the LH IIIB period. Laffineur takes this to mean that the LH IIIB inhabitants did not look upon the circle as having had any funerary significance, and that in fact, they had forgotten about the graves that were under the surface. One of the problems raised by this interpretation is that, while the date of the stelae may be moved, that of the construction of the peribolos wall that surrounded the grave circle is solidly anchored in the LH IIIB period. Thus, if the stelae were not reerected in LH IIIB, then the peribolos wall would have been built to surround a blank patch of ground. Laffineur does question what purpose the circle thus created might have served, but in the end he says, "the present analysis, I admit, raises more new and significant questions than provides definite answers to earlier questions" (Laffineur 1995, 92). Evangelia Protonotariou-Deilaki (1990, 87), however, following Christos Tsountas (1897, 106), revives the possibility that Grave Circle A was covered by a tumulus. This would avoid the problem of having, as she says, grave markers and stelae "left suspended over empty space" (Protonotariou-Deilaki 1990, 87). Actually, Protonotariou-Deilaki believes that there would have been a tumulus on that spot from very early times—the Early Helladic period—but that its top surface was altered around 1250 B.C. Whether we accept the lengthy time she proposes for the existence of a tumulus in the area, the idea that it was there in 1250 B.C. does solve the problem of the seemingly elevated levels of the stelae. The benefit of this proposition is that it would keep the renovation of the area and the construction of the peribolos wall together as a single event. The objection though is that if there was a tumulus, what was the entrance to the grave circle used for? This is a quandary that has not been resolved in the decades since Schliemann first excavated Grave Circle A, and I certainly do not propose to offer any definitive solution. But I do think the evidence we have does not support disassociating the reerection of the stelae from the construction of the peribolos wall. Thus the full renovation of Grave Circle A should be taken to have occurred within the LH IIIB period.

In addition, evidence was found that the burials within the area were the object of a cult before the renovation of Grave Circle A. Laffineur (1995, 90) himself acknowledges that there were "cultic practices of a heroic nature . . . that were performed over a long period of time in the area of the acropolis Shaft Graves" (Laffineur 1995, 90). The evidence consists of a small cave in the bedrock between Graves I and IV that contained sherds dating from the MH and all of the LH periods

(Keramopoullos 1918, 52). Below this layer was a series of hearths and a great deal of burned matter. The sherds were unstratified, but the fact that many of them dated to such late periods indicated to Antonios Keramopoullos that the hearths and burned offerings belonged to the periods succeeding those in which the burials were made. Alan Wace, in his publication of Grave Circle A (1921–1923, 121), refers to the small cave as evidence that "offerings continued to be made to the shades of the kings who lay here." Thus it seems likely that ancestor worship was conducted on the site of Grave Circle A after the final burials were placed in the shaft graves right up until the refurbishment of Grave Circle A. This possibility has been overlooked by several scholars, and I think this is due to a misunderstanding based on the initial publication of the evidence. Keramopoullos proposed that this hollow could have been used in conjunction with a circular, well-like altar that was found by Schliemann over Grave IV. Wace tries to correct that view (1921–1923, 121), since it was later determined that the altar must have been in use contemporaneously with the graves, and so the altar and the cave had to be disassociated. The unfortunate result, however, was that later authors, such as Oliver Dickinson (1994, 229–230), dropped the cave from their interpretation of the site entirely, although the altar is generally discussed. Thus in more recent scholarship the evidence for continuous cult activity on the site is not taken into account.

However, with this evidence, we can propose that when the *wanax* of the LH IIIB period instituted his renovations of Grave Circle A, rather than creating a religious observance out of whole cloth, he may instead have been drawing on religious practice that was already well established in Mycenaean society. Presumably, previous *wanaktes* had also capitalized on their connection with the past, but it was a *wanax* of the LH IIIB period in particular who had the desire, or the need, to renew this worship in a spectacular manner. Laffineur's main point is that we should not so readily identify the object of the cult of Grave Circle A to have been a specific king; he proposes that the cultic practices were "essentially collective and non-permanent in nature" (Laffineur 1995, 90). He says this in order to encourage scholars to move beyond the assumptions made by "Homeric" scholars about Grave Circle A—that it was built to honor specific legendary/literary kings (Agamemnon), an idea that originated with Schliemann but held sway over a couple of generations of scholars. While Laffineur's basic point is a good one, nonetheless, I think we need not discard the possibility, indeed the likelihood, that the Mycenaeans did remember and honor their forebears who laid the foundations of their current civilization. And perhaps one king in particular, possibly the first *wanax*, or an early one that stood out for some distinguishing accomplishments (along with his wife or mother, given the feminine form that *wa-na-se-wi-ja* is derived from), became the focus of an ancestor cult.

Certainly it would have been politically beneficial for subsequent *wanaktes* to be considered the heirs of such a revered king. Both literary and archaeological examples of people manipulating funerary remains of ancestors for political reasons can be found in the historical periods. Herodotus provides us with two such examples. In one he tells us that in the sixth century the Spartans set out to find the bones of Orestes in order to bring them back to Sparta with the belief that they would help the Spartans gain the upper hand over Tegea (Hdt. 1.67–68). In a second story he relates how Cleisthenes of Sicyon had the bones of Melanippus brought from Thebes so that he could establish a cult in his honor that would eclipse that of Adrastus (Hdt. 5.67). Another example from the fifth century is described by Plutarch (*Thes.* 36.1–2; *Cim.* 8.3–6) in which Cimon located the bones of Theseus on Scyros after it had been conquered by the Athenians and brought them back to their rightful home for reburial in Athens. Susan Alcock (2002, 146–152, 166–167) discusses archaeological examples of tomb cult in Messenia and notes how prevalent the phenomenon was there, particularly in the Geometric and Hellenistic periods, that is, just before and after the inhabitants were subjected to Spartan domination. She says that for the Messenians, the tomb cult "furnished a local source of authority for communities under duress" even though the tombs lacked "specific names and genealogies" (Alcock 2002, 150). Prior to the historical period, starting in the 10th century and reaching its peak in the eighth century (although the practice continued on into the Classical period and beyond), votive deposits were left at Mycenaean tombs (Antonaccio 1995, 11–143), and it was also common for Bronze Age tombs to "receive new burials in the Iron Age

and later" (Antonaccio 1994a, 400). Antonaccio says that the reuse of these tombs "stakes claims to the ancestors" (1994b, 92), and she points out that by "fastening on to a site of past significance, [the people] used the past to lay claim to present power" (1994b, 103). Antonaccio (1994a, 401) also says "it is becoming clearer that such treatment of monuments in the Bronze Age too, was an attempt to legitimate the present using the past."

Clear examples of ancestor cult are not abundant in the Mycenaean period. Jeff Soles (2001) provides an example of Mycenaeans engaging in ancestor worship on Crete. He says that while the Mycenaeans on Crete seem not to have practiced ancestor worship on the same scale as the Minoans (on ancestor worship and its political importance among the Minoans, see Murphy 1998), they nonetheless continued the practice at Archanes, where it had been so important to the Minoans who worshiped there for centuries. Soles (2001, 233) reasons that the Mycenaeans did this because "by continuing the ancestor-worshipping practices of their Minoan predecessors, they identified themselves as their legitimate heirs, strengthened their claim to the newly conquered land and established their right to rule." Thus it seems that in this case too the Mycenaeans' use of ancestor worship was politically motivated and practiced in order to bolster their claim to power by connecting them with rulers of the past. Unfortunately, Joanne Murphy (this vol., Ch. 16) concludes that there is no evidence for ancestor worship in the LH IIIB mortuary sites immediately surrounding the palace site of Pylos on the Englianos ridge. Perhaps this means that for the Pylians, the worship of the ancestral *wanax* was conducted primarily in shrines (the **wanaseion*, for instance) rather than at a burial site.

Conclusion

It seems likely that at Mycenae a similar political claim was being made through the refurbishment of the shaft grave tombs, which I think must have been remembered as housing some very illustrious ancestors. And the offerings made to the *wanax* on the Fr series could be interpreted as corollary evidence for a cult devoted to an ancestral *wanax*, a cult that was supported by the *wanax* ruling at the time. Of course, in proposing that the *wanax* of the Fr series was a deity rather than the mortal king, I do not mean to dispute the importance of the religious role that the *wanax* played for his people nor detract from the significance that this role held for the *wanax*'s assertion and maintenance of power as supreme leader of his society. Rather, I think that seeing the *wanax* of the Fr tablets as a heroized ancestral *wanax* would have served to enhance the ruling *wanax*'s religious standing with his people. Having a divine ancestor would have given the mortal *wanax* a close affinity with the divine realm, an affinity that would have lent him an air of the supernatural and a clear claim to a superior status over the mortals who lacked such an association. Thus the worship of an ancestral *wanax* would have served to strengthen the subsequent *wanaktes*' claim to the singular power wielded by the *wanax*, and it is possible that in the late LH IIIB period, when Mycenaean society seems to have been experiencing a great deal of stress, such symbolic support from the divine realm may have become increasingly important for the *wanax* or *wanaktes*, who may have been in the position of trying to preserve not only their own claim to power but also the stability of their entire society.

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CHAPTER

14

"Snakes" in the Mycenaean Texts? On the Interpretation of the Linear B Term *e-pe-to-i*

Carlos Varias García

From the discovery of the roughly 240 Linear B tablets in the *Odos Pelopidou* excavations at Thebes between 1993 and 1996 until the present, Mycenaean scholars have been fascinated by these texts and have engaged in a vigorous discussion of their nature, starting with the religious interpretation proposed by the editors (Aravantinos, Godart, and Sacconi 2001).* Among the new Mycenaean vocabulary attested in these inscriptions, there is a group of seven words that the editors interpret as names of sacred animals who were recipients of offerings. One of the most interesting is *e-pe-to-i*, a term which, complete or restored, occurs on seven fragments of leaf-shaped tablets, all of them belonging to the Gp series and Scribe 306: Gp 107.[2], 164.1, 181.[1], 184.2, 196.2, 201.[b], and 233.[2].

Five different interpretations have been suggested for this term. Three are in agreement with the Greek reading given by the editors—*e-pe-to-i* as the dative plural of Greek ἑρπετόν, "snake"—but they offer differing views of its meaning. In the first of these, *e-pe-to-i* refers to live sacred animals, which is the interpretation chosen by the editors (Aravantinos, Godart, and Sacconi 2001, 277; 2003, 27) and followed by other scholars (Duhoux 1997, 187, 195–196, before drastically changing his opinion after the edition of the texts; Rousioti 2001, 311; Ruijgh 2003, 227; Iodice 2005, 14, 16; Milani 2008, 543). This is also one of the two interpretations accepted by John Killen (2006, 81 n. 7). In the second interpretation, *e-pe-to-i* refers to a theriomorphic

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deity (Sacconi 2000) whose statues are worshipped (Perpillou 2001, 309) or are totemic representations (Melena 2001, 51). In the third interpretation, *e-pe-to-i* refers to a group of men called "snakes" who participate in a religious cult (Weilhartner 2005, 198, 200; 2007, 343–351; Ricciardelli 2006). Françoise Rougemont (2009, 125–126) favors this hypothesis for the other names of animals, but she also suggests another possibility for the snakes (see my conclusions here). A fourth interpretation disagrees with the meaning of the same Greek word: it is regarded as the dative plural of ἑρπετόν, "quadruped," referring to all kinds of land animals, as opposed to πετεινόν, "flying animal" (Palaima 2000–2001, 486; 2003, 114; Neumann 2006, 128–129). Killen regards this interpretation as possible because he considers *e-pe-to-i* to be the only animal term certainly recorded by Scribe 306 in the Gp series (Killen 2006, 81 n. 7).

The fifth interpretation is that of Yves Duhoux, the only scholar who disagrees with the Greek interpretation of Linear B *e-pe-to-i* as referring to an animal. Instead he interprets it as the dative plural of a common noun of person or as a place name. Duhoux suggests it is */*ep^{h}etoi^{h}i*/, an unattested term derived with the suffix /*-tos*/ from an agent name ἐφέται, "chiefs," which he translates as "for the subordinates" (Duhoux 2002–2003, 199), or as an unattested occupational name */*empeltoi^{h}i*/, "for the people with a shield," a compound with ἐν- and a form from the family of πέλτη, "small light shield of leather" (Duhoux 2008a, 250; 2008b, 381). As a place name, which is possible since the Gp series records place names as recipients of offerings, he suggests one related to Ἐρβησσός (Sicily), with the dialectal variant of the suffix -ηττός, attested in Boeotia, but not in Linear B (Duhoux 2002–2003, 199; 2008a, 249–250).

The variety of the interpretations shows the present difficulty in establishing the meaning of the term *e-pe-to-i*, due on the one hand to the very fragmentary state of the texts, with four of the seven fragments almost without context, and on the other to the fact that zoological references to snakes are otherwise absent from Linear B.

Contrary to the previous studies, I think that the interpretation of *e-pe-to-i* must be separated from that of the other possible animal names because of an important fact: it is one of the two "animals" (the other is *e-mi-jo-no-i*, interpreted as the dative plural of Greek ἡμίονος, "mule") attested as the recipient of quantities of wine. The other five possible animal names ("dogs," "geese," "birds," "cranes," and "young pig") always or sometimes receive other agrarian products, like barley, flour, or olives. Furthermore, each of these five terms appears at least once in the same tablet with another one (e.g., "dogs" and "geese" in Fq 205, "young pig" and "geese" in Ft 220 and 234, "birds" and "cranes" in Fq 169), while both *e-mi-jo-no-i* and *e-pe-to-i* never occur with other animal names. In spite of some very small fragments, the fact that seven inscriptions bear the term *e-pe-to-i*, compared to only two with *e-mi-jo-no-i* (Gp 129.2 and 237.[2], which I shall discuss later), leads me to think that it is probably not coincidental that *e-pe-to-i* does not receive any other product except wine. Consequently, it is possible to separate *e-pe-to-i* from the other terms interpreted as names of animals and to examine it independently.

The three best-preserved tablets in which *e-pe-to-i* appears, Gp 164, 184, and 196, whose texts are shown below, in principle favor the proposals by Duhoux, the only scholar who does not take *e-pe-to-i* as the name of an animal:

Gp 164
.1] ḍẹ, VIN 2 s 2 v 2 e-pe-to-i s 1 v 1[
.2]s 1 a-ko-ro-da-mo v 2 *56-ru-we v 4 to[
lat. inf.]1 to-ro-wo s 1 [

Gp 184
.1]ỵ 3 to-pa-po-ro-i , VIN s 1
.2]*56-ru-we v 2 e-pe-to-i v 1

Gp 196
.1 *63-te-ra-de [
.2 e-pe-to-i v ḷ[

It must be stressed that all three of these tablets have been written over previously erased texts, like another brief fragment (Gp 181) where *e-*]*pẹ-to-i* occurs. This fact perhaps shows that they are the ordinary records of Scribe 306, who reuses simple tablets with only two written lines to register allocations of wine to several recipients.

Five other terms appear along with *e-pe-to-i* in these tablets as recipients of quantities of wine: *a-ko-ro-da-mo* (Gp 164.2), **56-ru-we* (Gp 164.2, 184.2), *to-ro-wo* (Gp 164.*lat. inf.*), *to-pa-po-ro-i* (Gp 184.1), and **63-te-ra-de* (Gp 196). There does not seem to be a fixed order in recording the recipients,

because *e-pe-to-i* is written before *a-ko-ro-da-mo* and **56-ru-we* in Gp 164, but after the last term in Gp 184. One could point to a descending order according to the allocated quantities, but this is contradicted by Gp 164.2, where **56-ru-we* gets more wine (V 4) than the previous recipient, *a-ko-ro-da-mo* (V 2).

Scholars unanimously agree that *a-ko-ro-da-mo*, **56-ru-we*, and *to-ro-wo* designate three different men in the dative singular and that the last two are personal names. Regarding *a-ko-ro-da-mo*, which only appears in Gp 164.2 and 215.[2], the editors take it as a variant spelling in *scriptio plena* of *a-ko-da-mo*, an individual recorded in more than 20 tablets, and they interpret it as a functional name compound of ἄγορος and δᾱμος, meaning "he who gathers the people" in a cultic context (Aravantinos, Godart, and Sacconi 2001, 169–171). However, it is preferable to follow, like other scholars, the more solid arguments by José Luis García Ramón, who interprets *a-ko-ro-da-mo* as the personal name /*Akro-da:mos*/, "the highest of the *damos*," a different man from *a-ko-da-mo*, which could be interpreted as /*Ark*^{h}*o-da:mos*/ (García Ramón 2006, 45–50).

Besides those three personal names, a fourth recipient found in these tablets is also human: the term *to-pa-po-ro-i*. This term, which appears in Gp 184.1, Av 101.6ḅ, and probably in Fq 341.[ḭ], is undoubtedly the masculine dative plural of a noun indicating a group of men. The editors interpret it as a functional name compound of στορπάν and -φόρος, with the meaning "bearers of light," equivalent to the ritual torch bearers led by the δᾳδοῦχος in the Eleusinian mysteries (Aravantinos, Godart, and Sacconi 2001, 172). This interpretation is refuted by most scholars, however, since the term *to-pa*, attested on tablet PY Ub 1318.3, is generally interpreted as a form of τάρπη, a "large wicker basket." The consensus interpretation of *to-pa-po-ro-i* is */*torpa:p*^{h}*oroi*^{h}*i*/, "bearers of baskets," similar to the later Greek /*kane:p*^{h}*oroi*/ (Aravantinos, Godart, and Sacconi 1995, 837; Palaima 2000–2001, 486; 2003, 115; Killen 2006, 99). It is therefore an occupational name. On the other hand, more recently Alberto Bernabé (2008, 25–26; 2012) interprets *to-pa-po-ro-i* in Av 101.6b as στορφᾱφόροιʰι, "rope bearers," and suggests that the context of this tablet indicates that this word refers to all the people previously recorded on it.

The fifth term mentioned, **63-te-ra-de*, is the only one which does not refer to men: it is a place name in the allative, indicating the place to which certain quantities of wine are sent. This place name is well attested in the Gp series, and only in this series, because it appears, complete or likely restored, in 15 tablets (twice in one tablet, Gp 119.2.3). It occurs in three of them beside the term *e-pe-to-i* (Gp 107.1, 196.1, and 233.1), always in the same position, with *e-pe-to-i* on line 2 below **63-te-ra-de*, on line 1. A remarkable fact is that **63-te-ra-de* is always the first term recorded on its line: 11 times on line 1, four times on line 2, and once on line 3.

In keeping with these terms, Duhoux (2002–2003, 199; 2008a, 249–250; 2008b, 381) states that *e-pe-to-i* must be a common noun referring to people, a function or occupational name, or a place name. Nevertheless, both proposals present serious objections. The interpretation that *e-pe-to-i* is a place name is the weakest and must be rejected, given that the place name **63-te-ra-de* is in the accusative allative case, not in the dative-locative plural, and the other incomplete place name attested in the Gp series,]*i̯a-de*, a *hapax* in Gp 153.1, is in the allative case too. Apart from the Gp series, in the other tablets found in the *Odos Pelopidou* deposit at Thebes, the most frequent place names are in the allative case: *ka-zo-de*, *ki-ta-*]*ro-na-de*, *po-to-a*$_{2}$*-ja-de*, and *te-re-ja-de*. Place names in a different case are only found on tablet Ft 140, and of the five toponyms recorded there, only one is in the dative-locative plural: the clear *te-qa-i* (*/*T*^{h}*e:g*^{w}*a:*^{h}*i*/), "at Thebes." Apart from anything else, one term in the locative recorded beside a term in the allative on an allocation tablet of a single product would be inexplicable.

The interpretation of *e-pe-to-i* as a common noun of person in the dative plural, like the *to-pa-po-ro-i* of Gp 184.1, comes up against the difficulty in proposing a plausible Greek term. Duhoux suggests two compound names not attested in alphabetic Greek: the functional name */*ep*^{h}*etoi*^{h}*i*/, "for the subordinates," and the specialized name */*empeltoi*^{h}*i*/, "for the people with a shield," but the weight of evidence is against both proposals compared to ἑρπετόν from a linguistic point of view. Neither interpretation has any morphological or semantic parallel in Mycenaean Greek nor makes sense within the context. The meaning of */*ep*^{h}*etoi*^{h}*i*/ would be very vague in comparison

to the specific *to-pa-po-ro-i*, and that of */*empel-toi^{h}i*/ implies a military context, which is inconsistent with the other terms in these tablets. Without a deeper line of argument, Duhoux's interpretations are much less likely than that of ἑρπετόν. As several scholars point out (Killen 2006, 100 n. 61; Weilhartner 2007, 342), the length of the term *e-pe-to-i*, with four syllabograms (and also *e-mi-jo-no-i*, with five syllabograms), makes it difficult to propose an interpretation other than the only known Greek word that fits with this spelling, namely ἑρπετόν.

If, therefore, ἑρπετόν is the most likely Greek word to be read in the term *e-pe-to-i*, we face the thorny issue of what animal name it stands for in Mycenaean: whether "snake" or the generic "quadruped, land animal," which are the two proposed interpretations, although there is a third possibility. This is "reptile," according to the etymology of the word, which Weilhartner (2007, 342 n. 20) seems to favor. The Indo-European root of ἑρπετόν is indeed **ser-p* "to move by creeping," a sense that is clearly seen in the corresponding nouns of Sanskrit *sarpa-* and Latin *serpens*, both of which mean "snake" (Chantraine 1999, s.v. ἕρπω).

However, as several scholars note (Palaima 2000–2001, 486; Melena 2001, 51; Killen 2006, 81 n. 7; Neumann 2006, 128–129; see also Liddell and Scott [1925–1940] 1968, s.v. ἑρπετόν), the first and the most frequent attestations of ἑρπετόν in alphabetic Greek have the generic meaning "quadruped, land animal," in opposition to πετεινόν, "flying animal," beginning with the only attestation of this term in Homer applied to the old sea monster Proteus (*Od.* 4.417–418; trans. Stanford 1959, 280):

> πάντα δὲ γινόμενος πειρήσεται, ὅσσ' ἐπὶ γαῖαν
> ἑρπετὰ γίνονται καὶ ὕδωρ καὶ θεσπιδαὲς πῦρ·
>
> And by turning into everything that moves upon the ground, and into water, and into divinely blazing fire, he will try to escape

This continues through other authors, in both poetry and prose, until the Hellenistic period (Theoc. *Id.* 15.118, Ap. Rhod. 4.1240). The following passage of Alcman refers to the Homeric verses quoted above, so, despite the English translation of ἑρπετ' with "creeping-things," it must rather designate all kind of land animals (Neumann 2006, 128):

> εὕδουσι δ' ὀρέων κορυφαί τε καὶ φάραγγες
> πρώονές τε καὶ χαράδραι
> φῦλά τ' ἑρπέτ' ὅσα τρέφει μέλαινα γαῖα
> θῆρές τ' ὀρεσκώιοι καὶ γένος μελισσᾶν
> καὶ κνώδαλ' ἐν βένθεσσι πορφυρέας ἁλός·
> εὕδουσι δ' οἰωνῶν φῦλα τανυπτερύγων.
>
> Asleep lie mountain-top and mountain-gully, shoulder also and ravine; the creeping-things that come from the dark earth, the beasts whose lying is upon the hillside, the generation of the bees, the monsters in the depths of the purple brine, all lie asleep, and with them the tribes of the winging birds.
>
> (Alcm. 89; trans. Edmonds 1928, 77)

More examples are given here (that of Sappho, with the Aeolic dialect variant ὄρπετον):

> Ἔρος δηὖτέ μ' ὁ λυσιμέλης δόνει,
> γλυκύπικρον ἀμάχανον ὄρπετον
>
> Once again Love loosens my limbs and turns me giddy, bitter-sweet creature, irresistible
>
> (Sappho 40[a]; trans. Page 1955, 136)

> Ἀπὸ Ταϋγέτοιο μὲν Λάκαιναν
> ἐπὶ θηρσὶ κύνα τρέχειν πυκινώτατον ἑρπετόν·
>
> From mount Taÿgetus cometh the Laconian hound, the cleverest creature in chasing the quarry
>
> (Pind. fr. 106; trans. Sandys 1919, 577)

> οἱ δὲ δὴ Μάγοι αὐτοχειρίῃ πάντα πλὴν κυνὸς καὶ ἀνθρώπου κτείνουσι, καὶ ἀγώνισμα μέγα τοῦτο ποιεῦνται, κτείνοντες ὁμοίως μύρμηκάς τε καὶ ὄφις καὶ τἆλλα ἑρπετὰ καὶ πετεινά.
>
> But the Magians kill with their own hands every creature, save only dogs and men; they kill all alike, ants and snakes, creeping and flying things, and take much pride therein.
>
> (Hdt. 1.140; trans. Godley 1920, 179–181)

> ἔπειτα τοῖς μὲν ἄλλοις ἑρπετοῖς πόδας ἔδωκαν, οἳ τὸ πορεύεσθαι μόνον παρέχουσιν, ἀνθρώπῳ δὲ καὶ χεῖρας προσέθεσαν, αἳ τὰ πλεῖστα οἷς εὐδαιμονέστεροι ἐκείνων ἐσμὲν ἐξεργάζονται.
>
> Secondly, to groveling creatures they have given feet that afford only the power of moving, whereas they have endowed man with hands, which are the instruments to which we chiefly owe our greater happiness.
>
> (Xen. *Mem.* 1.4.11; trans. Marchant 1923, 59)

In alphabetic Greek, ἑρπετόν is not a common word, and the first time that it is attested with the

specific sense of "snake" is in Euripides' *Andromache*, almost in the last quarter of the fifth century B.C. (ca. 427 B.C.):

> πέποιθα. δεινὸν δ' ἑρπετῶν μὲν ἀγρίων
> ἄκη βροτοῖσι θεῶν καταστῆσαί τινα,
> ὃ δ' ἔστ' ἐχίδνης καὶ πυρὸς περαιτέρω
> οὐδεὶς γυναικὸς φάρμακ' ἐξηύρηκέ πω
>
> I do trust . . . Strange that God hath given to men
> Salves for the venom of all creeping pests,
> But none hath ever yet devised a balm
> For venomous woman, worse than fire or viper
>
> (Eur. *Andr.* 269–272; trans. Way 1912, 437)

The common Greek word for "snake" is ὄφις, attested several times in Homer with this sense (from *Il.* 12.208) and a frequent term in Ionic-Attic (Neumann [2006, 129] states that this is the proper and inherited word for this animal), and it is connected with ἔχις, "viper." Also, the old poetic term δράκων means "snake," a word also attested in Homer (*Il.* 12.202). The original sense of this word is "animal with its eyes open," which derives from the Indo-European root **derk-*, "to have the eyes open."

From this collection of evidence, Thomas Palaima holds that *e-pe-to-i* also means "quadrupeds" in Mycenaean Greek, a generic term appearing in tablets without any religious interpretation; in fact he refuses outright any religious interpretation for the new tablets from Thebes (Palaima 2000–2001, 486; 2003, 114). Nevertheless, his interpretation of *e-pe-to-i* as "quadrupeds" has serious problems when it is analyzed from several points of view.

First, the evidence in alphabetic Greek is more complex than has been seen so far. Between the generic sense of "land animal" and the specific sense of "snake," ἑρπετόν is also attested in the first millennium B.C. with the intermediate meaning of "reptile," which is the expected meaning because of its etymology. The lexica previously gave the following passage of Herodotus as the first instance of this meaning:

> σιτέονται δὲ οἱ τρωγλοδύται ὄφις καὶ σαύρας καὶ τὰ τοιαῦτα τῶν ἑρπετῶν
>
> They [i.e, the cave-dwellers] live on snakes, and lizards, and such-like creeping things.
>
> (Hdt. 4.183; trans. Godley 1921, 387)

This sense can be seen before, however. In Herodotus himself, in the passage quoted above (Hdt. 1.140), there is a connection between the terms ὄφις καὶ τἆλλα ἑρπετὰ καὶ πετεινά, which seems to show an ambiguous sense for ἑρπετὰ, half "reptile" and half "land animal." The following passage of Pindar's *Pythian* 1 (ca. 470 B.C.), referring to the monster Typhon, who has one hundred snaky heads, seems clearer:

> κεῖνο δ' Ἀφαίστοιο κρουνοὺς ἑρπετόν
> δεινοτάτους ἀναπέμπει· τέρας μὲν
> θαυμάσιον προσιδέσθαι,
> θαῦμα δὲ καὶ παρεόντων ἀκοῦσαι,
>
> And that monster flingeth aloft the most fearful founts of fire, a wondrous marvel to behold, a wonder even to hear, when men are hard by
>
> (Pind. *Pyth.* 1.25–26; trans. Sandys 1919, 157)

Consequently, there are early examples of ἑρπετόν in alphabetic Greek with a sense distinct from "quadruped." As a whole, therefore, the Greek evidence of the first millennium B.C. is not a deciding factor to establish the meaning of this word in Mycenaean Greek.

Palaima does not mention that there is already in Linear B a term for "quadruped," *qe-to-ro-po-pi*, a nominalized adjective compound with numeral */k^wetro-/ "four" and substantive ποῦς, πόδος, "foot," in the locative plural: */k^wetropopp^{h}i/, "of four feet." This term appears in four tablets of the Ae series from Pylos, PY Ae 27.a, 108 (likely restored), 134, and 489.a, the last three in the phrase *o-pi*, *ta-ra-ma-ta-o*, *qe-to-ro-po-pi*: "in the quadrupeds of *ta-ra-ma-ta*." Given that goatherds are recorded in both Ae 108 and 489, and one shepherd in Ae 134, doubtless the term *qe-to-ro-po-pi* refers to flocks of domestic animals, like sheep and goats. The four tablets are all written by the same scribe, Hand 42. Furthermore, this Mycenaean term continues into alphabetic Greek with τετράπους, the word commonly used to refer to any animal with four legs.

We would therefore not expect another term with the same sense of "quadruped" in principle, though one could claim in favor of this synonymy that each word is attested at different sites, one in Pylos and the other in Thebes, as well as in different hands. This issue of synonyms in Mycenaean is a thorny one. It is difficult to know, for instance, whether or not the meaning of *ko-wa*, unattested at Mycenae, is the equivalent of *tu-ka-te*, "daughter," which is only attested at Mycenae. A stronger argument is that the precise sense of both terms

might not be totally synonymous: while *qe-to-ro-po-pi* seems to be restricted to domestic animals belonging to flocks, *e-pe-to-i* could be a more generic term, which would include all kinds of creatures, in particular wild animals.

There is yet another difficulty in interpreting *e-pe-to-i* as "quadrupeds." In the Gp series, the term *e-mi-jo-no-i* is probably recorded twice, complete in Gp 129.2 and restored in Gp 237.[2]; its likeliest interpretation is the dative plural of Greek ἡμίονος, "mule." Leaving aside the occurrence of other possible names of quadruped animals in the Thebes tablets, like "dogs" or a "young pig," with which I do not deal with here, it would be odd to find the generic term quadruped in the same series of tablets where a specific quadruped (mules) is recorded, as Killen (2006, 82 n. 7) points out. It is true that Killen also objects that "*e-pe-to*(-*i*) is the only animal term certainly found on the Gp WINE tablets in Hand 306, thus leaving open the possibility that the allocations here are 'to the quadrupeds (in general).'" To be strictly accurate, it is not clear whether Scribe 306 is the author of the fragmentary tablet Gp 237, according to the editors, who ascribe it to him with a question mark. Moreover, the tablet is only a fragment, and the restored reading *e-mi*[*-jo-no-i* is not certain either, so we cannot confirm or deny that Scribe 306 recorded another animal, *e-mi-jo-no-i*, besides *e-pe-to-i*.

Another objection stemming from Günter Neumann's interpretation, which Killen briefly mentions, seems more solid (Killen 2006, 82 n. 7; Neumann 2006, 128–129). Neumann interprets *e-pe-to-i* in parallel with the term *o-ni-si*, another name of an animal attested three times in the Fq series from Thebes (Fq 123.2, 169.5, and 342.3, all three tablets written by Hand 305). According to him, both terms are the dative plurals of generic designations of animals: *e-pe-to-i* refers to any land animal, including suckling pigs, while *o-ni-si*, interpreted as ὄρνισι, indicates any type of bird, including doves and geese, like those referred to in several Ft tablets as *ka-si*. The similarity of this polarity in some of the examples in alphabetic Greek quoted above is the foundation of Neumann's argument.

All the same this proposal is not compelling either. First, ὄρνιθες does not appear in alphabetic Greek in opposition to ἑρπετά, but πετεινά does. Secondly, Scribe 305 does not record another bird with certainty (unless one considers that *ke-re-na-i* designates "cranes"), but he does record a specific land animal, dogs, if one accepts this interpretation for the terms *ku-no* and *ku-si*. This scribe therefore does not use the opposition hypothesized by Neumann, but rather he records a generic term and a specific term. Such an opposition could only be confirmed in Mycenaean Greek if one scribe used it, preferably in the same tablet or series, something which is not yet attested.

Finally, the contextual argument is more important than all the linguistic objections to the interpretation of *e-pe-to-i* as "quadrupeds." How could the occurrence in tablets of quadruped animals as recipients of wine among other human recipients be explained? There are no land animals that consume wine as part of their diet. The only plausible explanation is a religious one.

Among the religious interpretations of the new Thebes tablets, which should incorporate the possible names of animals, including *e-pe-to-i*, the most recent and most popular considers that these "animal" names refer to associations of men and women who participated in religious festivals, probably as dancers, partly or totally disguised as the animal for which they were named. Gabriella Ricciardelli and Jörg Weilhartner have independently argued in favor of this interpretation, using a similar and comprehensive reasoning, which is based, to a large extent, on the evidence of alphabetic Greek (Ricciardelli 2006; Weilhartner 2007).

In Greece in the first millennium B.C., there are indeed quite a few references to groups of celebrants or priests/priestesses named for an animal. This is the case of the young girls called ἄρκτοι, "bears," who celebrate Artemis at Brauron, the "fillies," πῶλοι, who celebrate Demeter and Kore in Messenia and Laconia, and the ephebes called ταῦροι, "bulls," dedicated to Poseidon at Ephesus. Apart from this evidence, the written sources also include plentiful animal designations for groups of dancers in several religious festivals, such as the "cranes" at Delos and the "falcons" at Argos. It is also worth mentioning the numerous titles of comedies with names of animals, like *Birds*, *Wasps*, and *Frogs* by Aristophanes, which refer to choruses dressed up as such animals. These titles may reflect popular performances in the villages, where participants used masks and animal clothes. The iconographic evidence, consisting of figurines,

bas-reliefs, and, above all, vase painting, is also abundant and fits with the written sources. In total, more than 20 names of different animals for groups of men or women (e.g., bears, fillies, bees, bulls, cows, doves, horses, lions, lionesses, ravens, foxes, rams) are attested in first millennium Greece.

In the second millennium B.C., different Minoan objects such seals, gems, and terracotta figurines depicting human figures with animal masks have been found in the Aegean basin, probably representing ceremonial dances (Ricciardelli 2006, 252–257). Similar iconographic evidence from the Mycenaean world is far more limited, however. There are several seals from mainland Greece dated to the 16th–15th centuries B.C. showing demons with animal heads and skins walking in procession. But these seals could be Minoan or Mycenaean. Weilhartner cites two strictly Mycenaean images of probable people disguised as animals: a fresco fragment from Tiryns, where two biped figures, one of them with a monkey's tail, can be partly seen, and the famous fresco fragment from the Cult Center at Mycenae, dated to the 13th century B.C., in which a procession of asses or mules with a stick or string on their shoulders is depicted, a representation that seems directly related to the term *e-mi-jo-no-i* on the Gp series (Weilhartner 2007, 346, 351; see also Ricciardelli 2006, 251–252).

It is very likely that there were processions or dances of groups of men and women disguised as animals already in Mycenaean ritual, as in Greece in the first millennium B.C., and that they were designated by their animal names. Likewise, it is very possible that the names of animals in the Thebes tablets, given that they appear alongside human recipients, refer to such groups, as Weilhartner and Ricciardelli maintain, especially in the case of the "mules" (*e-mi-jo-no-i*) who are recipients of wine. In this hypothesis, the meaning "quadrupeds" for *e-pe-to-i* would hardly fit with the specific designations of these groups, which represent a particular animal; there is no mention in the first millennium B.C. of a group designated as "quadrupeds" (τετράποδες or ἑρπετοί). Since these specific names appear in the Thebes tablets, a generic sense does not fit the hypothesized context. Therefore, a specific meaning of *e-pe-to-i*, namely, "snakes," referring to a human group of celebrants, remains a viable possibility.

Nonetheless, among the more than 20 names of celebrants as animals in the first millennium B.C., there are no celebrants referred to as snakes, and there is no written or iconographic reference to human groups disguised as snakes. At Delphi, however, there was a ritual performance of the serpent Python's killing by Apollo, both likely embodied by men, as Ricciardelli (2006, 261) mentions. This ritual was called the Septerion, and it was performed every eight years. There is unfortunately very little direct evidence for it, so the nature of its performance and meaning remain obscure (see Pàmias 2005 for a summary of the interpretations given to this ritual, with an interesting new proposal). In any case, this ritual would be completely different from those performed by celebrants disguised as animals because there would be only one animal, not a group.

The snake is the animal with the most religious symbolism across all cultures. Its shape and physical features (silent and fast, without feet, venomous, with periodical shedding of its skin, without eyelids) have suggested that to different peoples it had contrasting supernatural powers. The snake is linked to the origin of the world in many mythologies. It is also connected to the ancestors. It protects the house and bestows happiness, and it is the symbol of wisdom and cosmic powers. Nevertheless, it is also a symbol of evil, responsible for death, while representing immortality. In short, the cult of the snake occurs in many worlds (a good comparative synthesis of the snake's attributes in cultures all over the continents can be seen in Lurker 1987). In the Aegean basin, the importance of the snake goddess in Minoan religion is represented in the well-known figurines probably connected with the chthonic cult of the goddess of the earth and of the dead. This cult continued without interruption in Greece during the first millennium B.C. An example is Cecrops, the first mythical king of Athens, with half of the body in the shape of a serpent, who was venerated, like Erechtheus, assimilated to Erichthonius, both born of the earth.

Therefore, the snake, the only real animal worshipped as a god in Greece (Burkert 1985, 64), is different from other animals because of its characteristics, a fact that fits with the singularity of the record of *e-pe-to-i* on the Thebes tablets (see above). Since I have rejected the last three interpretations of this term mentioned above, only the first two remain: that is, the snakes in the Thebes tablets refer to sacred serpents or to deities in the shape of

serpents. However, both proposals are difficult to reconcile with a term in plural: how do we imagine a cult of a group of snakes?

I think that the key may lie in the 15 or 16 individual terracotta figurines representing snakes found in the Cult Center at Mycenae, in the area called the Temple Complex (Moore and Taylour 1999, 63–69, whose full description I summarize below). The editors of the Thebes tablets mention this finding, but they do not make much of it (Aravantinos, Godart, and Sacconi 2001, 321). These terracotta snakes are the only zoomorphic figures found in the Cult Center. They have been found in Room 19 and in Alcove 18 (except one, probably found in situ on the stairs in Room 18), together with about 20 Type B and some Type A anthropomorphic figures, and many vessels, especially cups (*kylikes*). The snake figures are contemporary with the Type B anthropomorphic figures; their date ranges from Late Helladic IIIA:1 to the beginning of Late Helladic IIIB:2 (ca. 1250 B.C.). They may be divided typologically into four groups, but this division is not meaningful in terms of their chronological development or their function. All of the figures are monochrome and have the same position: they are coiled with their tails lying at the center of the coils, in a perfectly natural manner (see Moore and Taylour 1999, 67–69, pls. 23–25).

The interpretation of these terracotta snake figures is problematic because there are no parallels for them in the Aegean. Independent snake figures are virtually unknown in any other site on mainland Greece or on Crete in the Bronze Age. Andrew Moore and William Taylour give a likely explanation of their function, after a thorough analysis (Moore and Taylour 1999, 104–107). First, it seems clear that they are not deities: they do not stand out in terms of their scale or attributes. Secondly, the fragmentary snake found on the stairs of Room 18, perhaps in situ, could have an apotropaic function—to guard the contents of the sealed Room 19 from disturbance. Furthermore, on Crete as well as on the mainland, snake figures are often associated with open shaped pottery, such as cups. This does not mean that there has been a Cretan influence on these terracotta snakes, but they could indeed stand for the real animal, in the same manner as the Type B anthropomorphic figures perhaps represent worshippers (Moore and Taylour 1999, 105). In short, it is probable that these snake figures have an apotropaic function, as guardians associated with the cult of a female deity.

Though it is a different site, given the chronology of the snake figures from the Cult Center at Mycenae, almost contemporary with the inscriptions in Linear B from Thebes, and given the great homogeneity in the Mycenaean palace administrations in the mainland, I think that the snake figures from Mycenae are good archaeological comparanda with which we may interpret the term *e-pe-to-i* in the Thebes Gp tablets. This term is in the dative plural, as recipient of relatively small quantities of wine, which range from 1.6 liters (Gp 184.2 and Gp 196.2) to 11.2 liters (Gp 164.1), comparable to the human recipients in these tablets (e.g., the *to-pa-po-ro-i* receive 9.6 liters of wine in Gp 184.1).

Only the place name in the allative **63-te-ra-de* is a recipient of wine in larger quantities: 65.6 liters of wine are recorded on Gp 109.2. The first line of this tablet, which begins with **63-te-ra-de*, also records the term *qe-te-jo*, which refers to the wine recorded on line 2. It is a common adjective in Mycenaean tablets, and it probably indicates the payment of a product as part of a religious obligation (Hutton 1990–1991). It is an important indicator that **63-te-ra-de* must designate a sanctuary. Consequently, the term *e-pe-to-i* appears in a religious context, since in at least three of the seven tablets in which it is attested, it appears beside **63-te-ra-de*, as I have mentioned above. It is also possible that both appear in a fourth one: it is possible to restore **63-te-ra-*]*de* (Gp 164.1), to which 80 liters of wine are allocated.

In conclusion, it is possible to suggest that the term *e-pe-to-i* refers to a group of snakes, represented by terracotta figures in a sanctuary called **63-te-ra*(*-de*), which are given libations of wine as sacred guardians of the place. Rougemont (2009, 123–124, 126) seems to reach a similar conclusion through different ways, although she does not completely favor this interpretation. They could even be live animals, but it is not necessary to assume this. The association of snakes with cups in the Cult Center at Mycenae, as well as the representation of a serpent and a vessel on Greek tombstones depicting a libation to the dead (Lurker 1987, 370), corroborates the hypothesized connection between the snake and wine in a cultic framework. The fact that these allocations are recorded on tablets alongside human recipients is

nothing exceptional: there are examples of tablets from Pylos (Fn series) and from Mycenae (Oi series) where both human and divine recipients are recorded together. The serpent as protector of the house is a familiar figure in European folklore. The "house-guarding snake," which is offered honey cakes, is one of the aspects of the cult on the Athens Acropolis that dates back to the Mycenaean tradition (Burkert 1985, 50). If this hypothesis is correct, we may have the first written evidence of this figure in the Thebes tablets.

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TI-MI-TI-JA

Pylos and Messenia

CHAPTER

15

The Development of the Bronze Age Funerary Landscape of Nichoria

Michael J. Boyd

The site of Nichoria in east central Messenia, discovered and excavated by the University of Minnesota Messenia Expedition (UMME) during the 1960s and 1970s, is one of the few well-published Bronze Age sites in the region, and it has exercised considerable influence on the development of theories concerning the rise of the Pylian kingdom and the role of secondary sites within it. Most critical have been the identification of Nichoria with *ti-mi-to-a-ke-e* by Cynthia Shelmerdine, who was part of the excavation team and published the Late Helladic (LH) IIIA:2–IIIB:2 pottery (Shelmerdine 1981, 1992), and subsequent diachronic analyses of the development of the site and its eventual incorporation within the boundaries of the Pylian state (Bennet 1995, 1999).

Nichoria is located on the western arc of the Gulf of Messenia, about two kilometers inland and on the upland plateau about 100 m asl. The area is liminal: to the east and south the land drops away steeply toward the coast in a broken landscape of steep ravines, while to the west and north lies the relatively flat central Messenian *kampos*, as well as the most direct route to Pylos (Rapp 1978). Both the habitation site and cemetery are situated on a small plateau amid ravines and bedrock outcrops.

Systematic excavations at the site uncovered substantial remains of the Mycenaean palatial period, along with earlier (Middle Helladic [MH] and some early Mycenaean phases) and later material. Architecturally, the Middle Bronze Age and Early Mycenaean periods were scarcely represented, although large amounts of pottery were excavated and studied. In contrast, architecture of the LH III period is abundant and suggests a well-organized settlement.

In addition to the excavation of the settlement, UMME excavated the well-known tholos tomb at the western fringes of the site, along with an

adjacent second structure that was designated the "Little Circle" (McDonald and Wilkie, eds., 1992). The two UMME structures are, however, part of a much larger funerary landscape: separate investigations in the area immediately west of the settlement uncovered further tholoi and other built tombs with a variety of construction and use dates (Parlama 1972, 1976; Choremis 1973). Taken together, these burial features constitute a rich and long-lived dataset. In this paper I examine the mortuary evidence from Nichoria in relation to Middle Helladic and Mycenaean social order and identity, reviewing first the chronology of the site and the general background to the mortuary archaeology of the period, and then discussing the Early Mycenaean, LH IIIA, and LH IIIB periods in turn, in each case considering the wider context of the period.

The Chronology of the Nichoria Cemetery

Known mortuary features at Nichoria are summarized in Table 15.1, and their locations are shown in Figure 15.1. In total, at least 24 tombs have been excavated: two UMME tombs (henceforth M1 for the "Little Circle" and M2 for the UMME tholos), the Veves tholos (V), six in the Nikitopoulou group (N1–N6) on the Tourkokivouro ridge, two (or perhaps three) apsidal tombs with a cist tomb in the Akones "mound" (AI–AIV, following the excavator), two built tombs in the Tsagdi group (T1, T2), and, farther away, four apsidal cist graves and two tholos tombs in the Lambropoulos/Lakkoules group (L1–L6) and three chamber tombs south (Vathirema) and east (Rizomilo and Rizomilo Saïnoraki) of the main cemetery area. Open excavations at the site in the Lambropoulos area show that at least one further tholos tomb has been excavated since the reported excavations of the 1960s and 1970s. The Bronze Age tombs (except for the chamber tombs) are those closest to the settlement site.

Post-Bronze Age burials are discussed by William Coulson (1983a) and Fred Lukermann and Jennifer Moody (1978, 108–109). The Iron Age phase (end of LH IIIC to Middle Geometric) is not the focus of this paper, but see Coulson (1983b, 265–270) for a summary. For the Iron Age tomb dates, I use Coulson's terminology (1983b; McDonald and Coulson 1983). The terminology, phases, and absolute chronology have recently been reviewed by Oliver Dickinson (2006, 17–19, 23), who proposes a gap of 200 years between the last Mycenaean use of the cemetery (LH IIIB:2 or the very early part of LH IIIC) and the extensive Dark Age (DA) I (end of LH IIIC or Early to Middle Protogeometric) expansion and reuse. Still later cult activity in the Classical period is well represented in M2 (Wilkie 1983), in the Hellenistic period at the Akones group (particularly A4; Parlama 1972, 262), and also perhaps in the Vathirema chamber tomb, with Classical and Hellenistic pottery (Lukermann and Moody 1978, 108; Coulson 1983c, 337).

The construction dates of Mycenaean multiple burial tombs can be much harder to ascertain than their last date of use, due to the common practices of disassociation and dispersal of pristine burial contexts as part of "second funeral" rituals (Cavanagh and Mee 1998, 76; Boyd 2002, 84–87, 89–90; discussed further below). The earliest material in a tomb is often taken to date it, but there is a clear possibility that still earlier material may have been removed (Boyd 2002, 87), and where no alternative method of dating is available, the chronology remains uncertain at best (Blegen 1937, 261; Wilkie 1992, 247). Furthermore, there is a possibility that material of early date may sometimes have been deposited long after its manufacture. There are often few clear-cut architectural indicators of date, even though the architecture, unlike the remains inside the tomb, is a direct product of the construction phase of the tomb. The dates given in Table 15.1 therefore refer only to the dated material within the tombs and do not unproblematically represent the full date range of use of the tombs.

This discussion is relevant to a consideration of the chronological development of the cemetery at Nichoria, which I propose contains a number of tombs most probably built early in the Messenian sequence (for the development of Messenian tholoi, see Boyd 2002, 55–58; forthcoming a). The tholos tomb is defined here on the basis of key architectural features (circular stone-built corbeled tomb)

Tomb Name	Register Number (based on Lukermann and Moody 1978, 108–112)	Identification	Principal Dimension	Reported Date Range of Finds
M1	—	Tholos tomb	Diam. 2.0 m	LH IIA
M2	—	Tholos tomb	Diam. 6.6 m	LH IIA–IIIB:2; Classical
V	6	Tholos tomb	Diam. 5.1 m	LH I–IIIB
N1	3	Horseshoe-shaped tomb	Axial length 1.66 m	DA I
N2	3	Tholos(?) tomb	Diam. ca. 4 m	LH IIIA:1–IIIB
N3	3	Tholos tomb	Diam. 3.4 m	LH IIIA–IIIB
N4	3	Tholos tomb	Diam. 3.4 m	MH–LH I; LH IIIA:1–2
N5	3	Tholos tomb	Diam. 5.2 m	LH I
N6	3	Tholos tomb	Diam. 3 m	LH IIIB–DA I
AI	4	Stone-built apsidal tomb	Axial L. 3.8 m	"Mycenaean"
AII	4	Cist grave	L. 1.35 m	Unknown
AIII	4	Stone-built apsidal tomb	Axial L. 3.1 m (?)	LH I
AIV	4	Stone-built apsidal tomb (?)	Axial L. 2.9 m (?)	Unknown
T1	30	Horseshoe-shaped tomb	Axial L. 1.27 m (min.)	DA I
T2	30	Horseshoe-shaped tomb	Axial L. 1.51 m	DA I
L1	12	Apsidal cist	L. 2.1 m	DA II
L2	12	Apsidal cist	L. 1.7 m	DA II
L3	12	Apsidal cist	L. 1.7 m	DA II
L4	12	Apsidal cist	L. 2.2 m	DA II
L5	11	Tholos tomb	Diam. 2.0 m	DA II
L6	—	Tholos tomb	Unknown	Unknown
Rizomilo Saïnoraki	14	Chamber tomb	Unknown	LH IIIA:2–IIIC:1
Rizomilo	13	Chamber tomb	Unknown	LH IIB
Vathirema	1	Chamber tomb	Chamber 6.0 x 3.7 m	LG–Hellenistic

Table 15.1. Nichoria cemetery, basic data.

without the arbitrary division based on size between tholos tombs and "smaller . . . built tombs" or "imitations" proposed by Dickinson (1983, 57–58, 60). In the detailed analysis below I will attempt to refine the basic (and perhaps misleading) picture suggested by the finds in the tombs.

Landscape and Architecture

The Bronze Age tombs form a cemetery to the northwest of the settlement site with four distinct but proximal foci (Fig. 15.1). The most prominent focal point is the Tourkokivouro ridge, elongated in a northwest–southeast alignment and of natural formation. Here are the six tombs of the Nikitopoulou

group, clustering toward the highest, southeastern end, where the gradient is sharp on three sides. Approximately 57 m to the southwest lies the Akones group, the UMME tombs lie about 78 m to the east, and the Veves tholos about 55 m to the south. Following UMME's analysis of the Late Bronze Age road system (Lukermann and Moody 1978, 90–92; Walsh and McDonald 1992, 460–461), a main east–west route is thought to have passed to the south of the Tourkokivouro and Akones groups and north of the Veves and UMME tholoi. A north–south route would have run south from M2 (and aligned with its dromos; Wilkie 1992, 231) and north probably between Akones and Tourkokivouro. Hence, these four cemetery foci surround, emphasize, and to some extent define the crossroads, and they also mark the postulated main route into the Nichoria settlement, in the vicinity of the UMME tombs.

At Tourkokivouro, the natural topography was probably accented by the creation of a small artificial mound into which four of the Bronze Age tombs (and the later N1) were built. This arrangement is particularly reminiscent of other sites in Messenia with unusually small tholos tombs: Kaminia, near the village of Kremmidhia some 12 km to the west (Korres 1975a; 1975b; 1980; Boyd 2002, 116–119), and Gouvalari mound A (as well as mound B and mound 2), just 2 km southwest of Kaminia (Korres 1974; 1975a; 1975b; Boyd 2002, 108–113). These sites consist of small (diam. 4 m or less) tholos tombs set into a single artificial mound, and all three have evidence for a very early date of use. The tholos tombs in the Tourkokivouro mound range from 3 m to 5.2 m in diameter; in two cases (N3 and N6) the complete outline of the tholos is preserved (chamber and stomion, and in the case of N3, a peribolos). Tombs N2, N4, and N5 were only partly preserved when excavated, the stomia and parts of the chambers having been destroyed. This is because the stomia faced outward—downslope—and so were subject to erosion (or perhaps agricultural damage). The situation is mirrored at Kaminia, where three of the five tombs lack their stomia for similar reasons.

Like the Nikitopoulou tombs, the Akones group is said by its excavator to have been set in an artificial mound, possibly largely made up of redeposited MH settlement debris, and also set on top of a small rise in the landscape. The use of mortuary tumuli in the MH period and at the transition to the Mycenaean period has been discussed extensively (e.g., Pelon 1976; Müller 1989; Cavanagh and Mee 1998, 29–30; Boyd 2002), and notwithstanding the difficulty in the present cases of being sure of the existence and nature of the tumuli, the structures reported within the mounds belong to the final phases of the use of mortuary tumuli before the ubiquity in LH I of tholos tombs. Messenian MH mortuary tumuli exhibit considerable variety in construction technique and interment practices, but the use of multiple built constructions in a single tumulus is a late feature. Both Nichoria "tumuli" exhibit this feature. The construction of small tholoi in the Nikitopoulou group links these tombs with the Kaminia and Gouvalari mounds mentioned above, and the substantial built constructions in the Akones group, although morphologically different, similarly served to create multiple constructed foci in a single mound.

Most interments in the main phases of use of MH tumuli were in pithoi deposited within the mound or in pits or cists dug and built into the mound. While the mound itself was a focal point in the landscape, the burials within the mound became a hidden part of its matrix and lacked a visible memento on its surface (although we should bear in mind the possible use of organic markers). This invisibility began to change in some pithos burials in which the pithos mouth projected from the sloping side of the mound. The mouth, even if closed by a stone slab, would have been visible and accessible in a more permanent way than a pit or cist grave. The later mounds containing small tholos tombs or, as with the Akones mound, built chambers with entrances, had even greater visibility and accessibility, with one further, very significant feature: they offered interior spaces built on a scale designed to allow adult humans to interact with each other and with material within the space (for the line of succession from pithos to tholos tomb, see Korres 1996; Boyd 2002, 54–56).

The invention of the tholos form—including the discovery and mastery of the architectural techniques required to build a stable tholos tomb—took place experimentally in the construction of these small tholos tombs (Boyd 2002, 56; for the principles of the technique, see Cavanagh and Laxton 1981). However, these small, early tholoi in clusters seem to have been a short-lived phenomenon. The tholos technique offered the potential to build

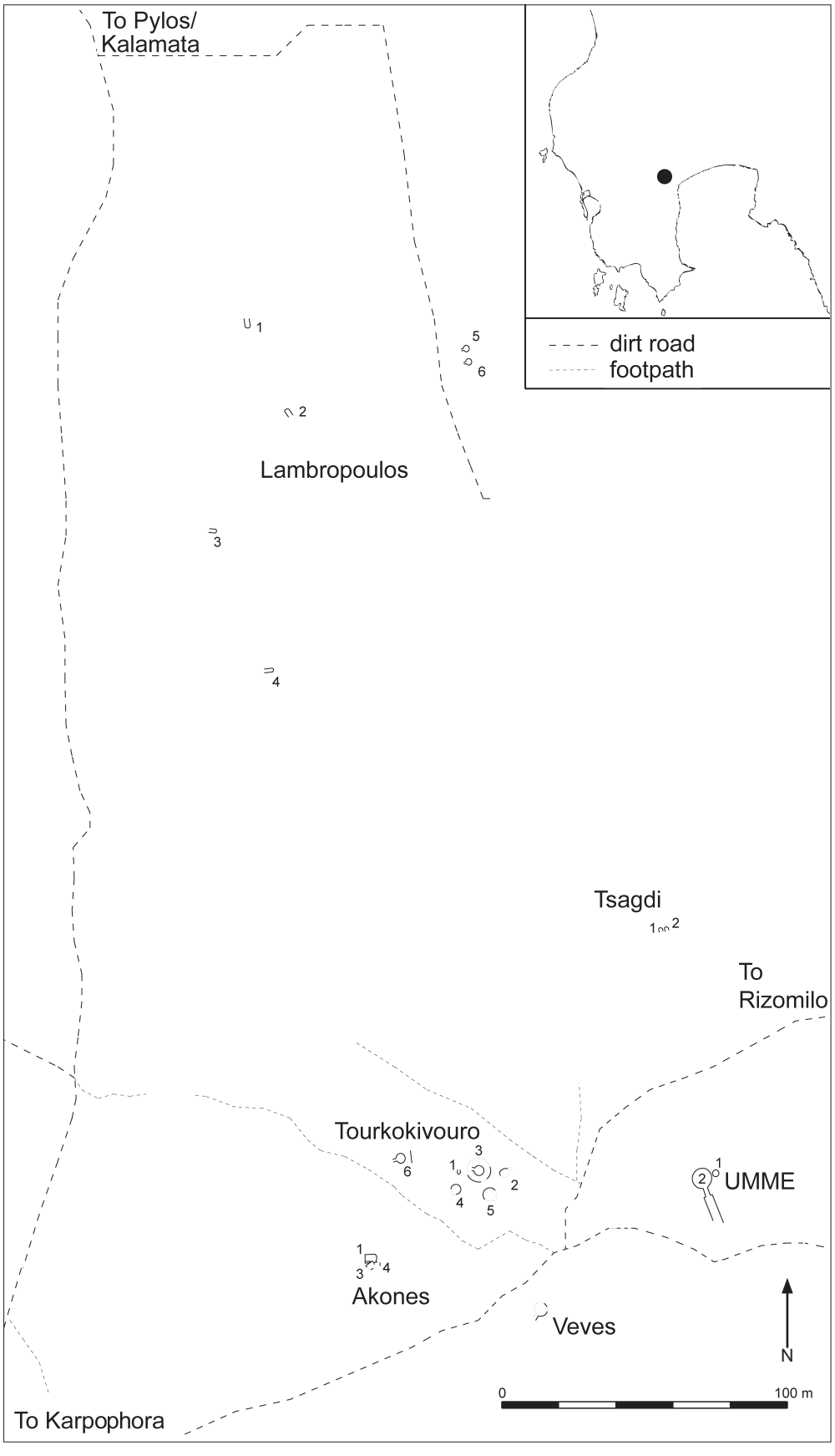

Figure 15.1. Map of Bronze Age tombs at Nichoria.

larger tombs, and its Messenian inventors seem to have taken advantage of this almost immediately. In this secondary adaptation of the tholos form (Boyd 2002, 56–57), larger tholoi (diam. up to about 6 m) were constructed within new tumuli (or occasionally underground), singly or sometimes in pairs, and the tumulus itself became a secondary aspect of the construction of the tholos, with the focus now on the entrance to the tomb and the interment activity taking place therein.

The Nichoria cemetery is important in preserving architecturally two of the "clusters" of the second type in Table 15.2 and in providing key data for the development of Mycenaean funerary practices. The new collective tomb types—quickly standardized in the tholos form of dromos, stomion, and chamber (Papadimitriou 2011)—offered access to the detritus of past funerals and the remains of the dead: they enabled new kinds of rites in relation to the dead, the incorporation of the material past in repeated and ongoing projects of presentation, and the juxtaposition of self and others in the creative context of the funerary locale.

Tomb Type	Focus	Burials
Tumulus	On and from the mound; nondirectional	Hidden and generally inaccessible after interment
Clusters of small built tombs	As tumulus, but with addition of several directional microfoci	Closed but marked by the entrances and accessible through them
Individual tholos tombs	Directed along the dromos and stomion	Accessible through the entrance

Table 15.2. Developments in MH–LH tomb architecture.

Reconstructing Action, Context, and Sequence in the Early Mycenaean Nichoria Cemetery

Funerary contexts are important because they preserve evidence for moments of human action. This has always been recognized with regard to pristine burials, from which analysts have tried to read as much information as possible from a context left untouched after the completion of the interment. But as so few pristine burials are found at Mycenaean sites, it is essential that we develop analytical approaches suited to the evidence that we do have: multiple-use tombs where a regular part of the activity was the rearrangement and representation of context (Wright et al. 2008, 644).

Early Mycenaean finds are reported from a majority of the tombs in the groups close to the settlement, but only in two cases (M1 and N5) is there no evidence of use in the Late Mycenaean period. These two present a complete contrast. The state of N5 at the end of its use life is striking. The floor had been carefully cleared of remains, both material and human, with just a few sherds noted. At one point toward the northwest, however, there was a small concentration of material consisting of 46 beads of various types, six gold rosettes, a miniature silver double axe, and silver wire and foil (Choremis 1973, 31). These objects can all be identified as dress material employed during an earlier funeral (or funerals); after the dissolution of the original burial context(s) this material was gathered together and eventually deposited here. Assuming a prior period of use of the tomb for burials, the events witnessed here are later, and, moreover, the entire tomb must have been reordered, with the complete removal of bone, weapons, tools, intact pottery, and almost all sherd material. The deposition of the decorative material was clearly a deliberate and final act in the tomb. There is no evidence to date the deposit; while the material is early, its final gathering and deposition might have happened later. Clearly, however, the reordering of this tomb represents a decision to offer a particular kind of

presentation—without bones or the accoutrements of ritual—suggesting that a static and "final" picture was being expressed. It is even possible to imagine this deposit as a step in a process that saw first the removal of material from the tomb, then the deposition of precious adornments gathered from earlier funerals, and finally the closure of the tomb by its deliberate destruction. This would explain the lack of later material in this tomb, which is the only one in the Tourkokivouro group not to include LH III material (cf. Peristeria; see Boyd 2002, 64).

The contrast with M1 could hardly be greater. Tomb M1 was replete with skeletal remains, but it contained hardly any finds of material culture. Recognized by its excavators as a likely tholos (Shay 1992, 226–228; see also Boyd 2002, 160–161), this small tomb was excavated, recorded, and published in exemplary fashion (Shay 1992). Apparently out of use before the construction of M2, M1 provides our best secure deposit of the Early Mycenaean period at Nichoria.

As with the adjacent Tourkokivouro tombs, M1 was built into the side of a natural prominence, its entrance, now lost, facing west (downslope). Internally, below the "mass burial" (a group of skeletons apparently interred one on top of the other without care in a single event; Shay 1992, 210–219), the tomb held well-preserved evidence for Early Mycenaean mortuary practices. These included an extended inhumation at the bottom of a shallow pit, with disordered bones coming originally from at least 10 individuals deposited above the extended skeleton, most likely during or shortly after the interment. The latter was far from intact, with damage to the skull and missing vertebrae, ribs, parts of the skull, and right arm. It did not, however, exhibit evidence of deliberate disarticulation. The single object found in the pit, a LH IIA squat jug, was placed above the lower legs of the corpse. Fragments of a LH IIA Vapheio cup were found throughout the pit, including at its lowest levels, while fragments of a conical cup were found both in the pit and scattered on the floor of the tomb. The cup, with a diameter of about 9 cm, had been deliberately broken into 10 fragments, and the Vapheio cup was similarly fragmented (14 recorded fragments)—contrasting with the intact squat jug.

Outside the pit, and excluding the final "mass burial" from consideration, skeletal material was found in the southeast quadrant of the tomb and in a small concentration to the west, immediately in front of the entrance and above the west end of the pit. The latter consisted of the mixed bones of four children with some large stones placed centrally above the pit. Because these bones were partly articulated and mixed together without any associated finds, and as they were immediately below the lowest member of the "mass burial," it seems likely that they were also part of the latter event. Thus, the only activity preceding the "mass burial" is represented by the bones in the southeast quadrant. Remains of at least eight individuals were located in this area in a deposit about 50 cm thick, with most of the remains in the upper part. Seven of the identifiable individuals were disarticulated, and, as usual, only parts of the skeletons were represented, with skulls and long bones forming the main components. These bones were thoroughly mixed, although the excavators noted two instances of deliberate juxtaposition of skulls and leg bones. The deposit was, again, remarkable for the lack of material culture associated with it, all the more so since the eighth individual was an articulated skeleton placed on top of the bone deposit; when excavated, its bones were at the same level and commingled with the bones below—almost the reverse of the situation in the pit.

Substantial and repeated rearrangement of the human remains deposited in this tomb is attested by the skeletal material in the pit above the extended inhumation and in the disarticulated and rearranged material of the southeast quadrant. The evidence for Mycenaean postburial rituals (sometimes called the "second funeral": Cavanagh 1978; Wells 1990, 135–136; Voutsaki 1993, 151–153; Cavanagh and Mee 1998, 76; Boyd 2002, 84–87; Gallou 2005, 113–114; for a contrary view, see Papadimitriou 2001, 178–179) suggests these activities resulted in the dispersal of primary burial contexts, along with the mixing and breaking of bones and material culture. Here in M1 we see evidence for at least two (and probably many more) such interventions. The first is in the pit, where collected bones and skulls were placed within the fill. This placement implies the careful gathering and curation of the material before or at the time of the interment. These acts included not only the rearrangement of the skeletal material and the mixing of the bones of individuals, but also the careful separation of the bones from any associated material goods, which

were then or later removed from the tomb entirely. The final arrangement within the pit may have been the culmination of several prior episodes of gathering, rearrangement, and removal of material items. The second such series of interventions is evidenced in the southeast quadrant and shows remarkably similar end results. Here again a number of interment contexts were mixed, rearranged, stripped of material accoutrements, and deposited in a single location, the consequence of a number of individual interventions. The resulting picture both compares and contrasts with N5: in both cases, the floors of the tombs had been carefully cleared, but whereas in N5 the end of the use life of the tomb was marked by a single deposit of gathered dress items and a complete absence of bones, in M1 the picture is marked by bone redeposition with almost complete removal of all material culture.

The final phases within M1 began with the interment of the extended skeleton on top of the bones in the southeast quadrant. Prior to the succeeding "mass burial," no attempt was made to disarticulate the remains of this burial, and when the "mass burial" was executed, remains of the lower adult male—specifically the lower leg bones—and the skull of an adult female (Nic 13) were found at the same level—and so presumably commingled—with the bones of the extended burial (Bisel 1992, 353; Shay 1992, 219). We must assume that the extended inhumation was conceptually separated from the "mass burial" by its excavators because it was found in a more or less canonical position—extended on its back—unlike the members of the mass burial. However, the lack of any material culture associated with this skeleton marks it as unusual in itself, and the mixing of these bones with parts of the "mass burial" suggests that the extended burial may have predated the mass burial by a very short period. The lack of attention to this corpse might indicate an unwillingness to engage much with a corpse whose death may have been caused by the same reasons postulated by the excavators for the mass burial—sudden and calamitous epidemic.

The contrasting pictures of these two tombs do not offer anything like a complete picture of the Early Mycenaean cemetery. However, they introduce two key elements of human action: ongoing processes of rearrangement of material within the tombs and practices that involve not only the introduction, but also the removal, of material from the tombs. These practices also hint at the interconnectedness of the tombs in the wider cemetery. To fill out our picture of the early Mycenaean cemetery, I turn to another of the Tourkokivouro tombs, N4, which contained both earlier and later material. Tomb N4 had three concentrations of mixed skulls, bones, and pottery grouped to the southeast, north, and west near the chamber wall; further material was gathered in a pit under a stone slab covering in the center. In addition, broken bones were found throughout the tomb, and other finds from the floor included a ewer, a spindle, a ring, four arrowheads, and 12 beads (Choremis 1973).

It is apparent that the final act in N4 was not a primary burial, since no intact skeleton was found in the tomb. The latest datable material belongs to the northern group of finds, which, according to their excavator, includes pottery of LH IIIA:2 date (all dates attributed to material are from the excavator's study; Choremis 1973). The disarticulated skeletal remains again demonstrate secondary rituals, and the presence of six skulls suggests at least six such interventions (though it must always be kept in mind that material can be introduced and removed from the tomb as part of these activities). The unpublished status of the other bones found broken on the floor or in the pit adds to the possibilities. This dissolution of primary burial contexts may seem to be destructive in nature, yet there is an order to the presentation of material in N4, even if the precise logic of that order is hidden from us. Most acts in the funerary sphere can be seen as meaningful and, indeed, as overburdened with meaning; there is no reason to believe a priori that people would have behaved with wanton abandon in the destruction of so many funerary contexts in Mycenaean Greece. Indeed, the evidence—so long overlooked—shows that the material in Mycenaean tombs was usually systematically ordered in ways that were significant for the participants in those rites. Arguably, archaeologists' often disappointed interpretations of "looting" have arisen from an unwillingness to engage with the complexity of human agency so richly preserved for us within these tombs (Boyd 2002, 31–32). For, although these actions were indeed destructive, the motivation was the creation of a new kind of order, and after the breakage came redeposition and the presentation of newly created contexts. This is the process that Julian Thomas (1996, 171) has usefully referred to

as "the production of context"—the reordering of things, people, and places in a continuous restructuring of locale in order to present certain practices as meaningful in particular ways. Nor should we envision a single orgy of destruction and reordering that represented a radical change in the social order: instead, the production of context was an endless project, carried out by each tomb user on every visit, leading—once the tomb stopped being used—to a funerary context that bore the cumulative traces of continuous or punctuated reordering over (in the case of N4) several hundred years.

Without a detailed osteological study, we only have the broad comments of the excavator on the disposition of bones within the three concentrations in the pit and on the floor. All skeletons had been disarticulated, and some of the bones were broken. The excavator's suggestion is that the number of bones indicates the presence of considerably more than six individuals within the tomb. But is there any structure to the deposit of osteological material? The skulls were associated with the three concentrations of material and other bones. The excavator contrasts the "great quantity of fragmentary bones" (Choremis 1973, 39) on the floor of the tomb with the few bones found among the otherwise "dense mass" of sherd material within the pit (Choremis 1973, 39). This pit was not, in its final phase, used for the interment of bones, but rather for the deposition of (mostly) broken pots—which, unlike the bones, are not mentioned as having been strewn over the chamber, although whole pots are associated with the material concentrations. Therefore, it would seem that one part of the logic operating in the ordering of the tomb toward the end of its use life was that skulls and longer bones were associated with whole pots in three distinct areas, while broken pots were deposited in the central pit.

Two distinct periods of use are evident in the tomb. The MH/LH transition is mainly represented by the pottery associated with the southeastern and western concentrations and the pottery from the pit; the kylix fragments associated with the western group presumably belong to the later phase. The northern group contains material dated to LH IIIA:2, while a single LH IIIA:1 ewer was found intact in the middle of the chamber. The earlier phase predominates, and the items of this period were rather carefully curated during the later phase. The majority ended up in the pit, but some intact items remained associated with material on the floor. Pottery of both phases includes both drinking and carrying/pouring vessels. All early carrying/pouring vessels, along with some drinking vessels, were deposited in the pit, but some (by then antique) drinking vessels were preserved in the latest arrangement on the floor, accompanied by some drinking vessels and all of the carrying/pouring vessels of the later period. While drinking rituals are attested in both periods, earlier rituals might have involved breakage of some drinking vessels, while in later periods liquids were brought into the tomb in contemporary vessels but might have been drunk from the antique cups not broken during earlier rituals.

All of these observations allow us to ask about the meaning derived from and invested in the production and reproduction of context within this tomb. The glimpses we have relate both to the tomb's early period and to how an already old tomb was perceived and utilized in the later period. In the early period, people took advantage of the architectural space of the tomb to inter multiple individuals in a private space that allowed for a clear separation between the public phase of the funeral—procession through the landscape to this prominent point—and the private phase, where a few mourners bore the body into the tomb and, unseen from outside, laid it on the floor. A ritual involving pouring and drinking liquids may relate to the funeral or to later actions interfering with the pristine burial context—or both. The secondary actions, performed after the dissolution of the flesh, involved the disarticulation of the corpse, the mixing of bones with other contexts, and perhaps the removal of items originally adorning the corpse. In time the tomb came to contain bones and material culture from several different episodes, which would be liberally rearranged to form an appropriate setting for each new funeral or to incorporate the newly disarticulated ancestral corpse once the flesh had decayed.

Although the tomb may have been used for burial in the LH IIIA period, we have no direct evidence for it, and the general lack of objects related to the dress of the corpse, especially with the northern group, might suggest that the late interventions did not involve primary burial. It is clear that users of the tomb sought and found an engagement with

the material past in the tomb that led them to arrange ancestral objects in ways meaningful to them while introducing some new equipment for rituals of drinking or libation. The old material in the tomb—like the skulls and bones, imbued with inferred and implied ancestral meaning—formed a resource which tomb users set about reordering to recontextualize those meanings within their own wider projects and ambitions. Thus, the material past—full of whispers of past lives, identities, stories, and power—was made and remade as part of the representation of the present order of things.

The general topography of the Mycenaean cemetery at Nichoria was produced in the Early Mycenaean period. Aside from the tombs already discussed, both the Veves tomb and the Akones mound were also in use at this time. Hence, the arrangement described above, with the tombs forming four focal points clustered around a crossroads and close to the entrance to the habitation site, was created in the Early Mycenaean period and continued essentially unchanged into the later period. At Tourkokivouro, aside from N4 and N5, two other small tombs were built into the mound and a third at a short distance. Early Mycenaean finds are not reported from these tombs, and so they may be Late Mycenaean additions, but, given the patterns of use already demonstrated, it is at least possible that they were earlier features from which the first material was later completely removed. Their location and small size hints at this possibility. Roughly 55 m to the south, the Veves tomb, more typical in size for Messenian LH I tholoi (5.1 m diam.), contained material of LH I–IIIB date. The mixed state of the remains resulting from the long period of use led the excavator to conclude the tomb had been looted, and for that reason his report is very summary in nature (Choremis 1973).

To the west, the Akones group consists of three unusual apsidal built tombs and a small built cist. Only a brief account has been published (Parlama 1972, 1976; see also Papadimitriou 2001, 37–42). Both mixed bones and extended skeletons are reported, but later use in the Geometric, Archaic, and Hellenistic periods complicates interpretation of the terse account. Architecturally, these tombs would have been rather impressive, ranging from 3 to 4 m in length and perhaps built into a mound composed mainly of MH settlement debris, as suggested by the excavator. Their entrances would have faced outward from the mound in three different directions. Both the Akones and Tourkokivouro groups fall within the second group listed in Table 15.2: clusters of small built tombs within a mound but creating, through their entrances, multiple directional foci. This pattern mirrors closely that observed at Gouvalari (Boyd 2002, 108–113). The small distance between these two sites makes it likely that close interaction and intersite mobility contributed to the similar development of the cemeteries. The resemblance persisted over the long periods of use of both cemeteries, with small tombs continuing to be employed in the LH II and LH III periods, even when larger tholoi had become the norm. Nichoria differs from Gouvalari only in having built tombs not of tholos form in the Akones mound. However, this architectural divergence may have been of minimal importance: the Akones tombs were similar in size to the small tholoi with outward-facing entrances, and they were apparently used on multiple occasions both for primary interments and secondary rituals.

The Nichoria Cemetery in the LH IIIA:1–IIIA:2 Period

The Late Mycenaean period is marked in the Nichoria cemetery both by continuity in the use of existing tombs (and possibly the construction of some of the tholoi of the Tourkokivouro group) and by the construction and use of a larger (6.6 m diam.) tomb. The latter, M2 (Wilkie 1992), is one of the best published of all Mycenaean tombs. Its main phase of use is dated by the excavator to LH IIIA:2–IIIB:2, and it seems likely that there was a gap of unknown length between the construction and first use of the tomb and later episodes of use attested by surviving deposits within the tomb. The excavator makes a strong and cogent case for a construction date within LH IIIA:2, and this may well be correct. However, the evidence would also allow for a construction date in LH IIIA:1 or even in LH II. Since the evidence from this tomb

is relevant in interpreting the cemetery as a whole, it is worth a reexamination.

The excavator's argument for a LH IIIA:2 construction date of M2 is based mainly on the pottery found in the tomb (Wilkie 1992, 246–247). The tomb was built after the final closure of M1, as the construction of the chamber of M2 damaged the chamber (and probable stomion) of M1. The scant material culture in M1 dates to LH IIA (although this alone does not securely date the latest burials); no sherds later than LH II are, however, reported from the fill above the burial layers in M1. Hence, M2 cannot have been built before LH IIA. Few deposits laid as part of the construction process of M2 seem to have been excavated, but a fill behind the dromos lining contained sherds of MH–LH II date. Although it was reported that only a few sherds were found in the fill, it is surprising that no LH III pottery was found if the construction took place in that period. Late Helladic IIIA:2 sherds were found in a thin layer at the base of the dromos, but as the dromos may have been filled and cleared many times, there is no guarantee that this low level is an especially early level.

Within the tomb, the excavator regarded three groups of finds that predate LH IIIA:2 as unrelated to the construction date of the tomb. The first of these comprises the metal objects in pit 3, which mainly date to LH IIIA:1 (Wilkie 1992, 263–264), with some items perhaps being slightly earlier. These are interpreted as heirlooms (Wilkie 1992, 253, 264). The second is the material found in pit 4, which includes sealstones and jewelry dated between LH IIA and LH IIIA:1; these are also considered heirlooms by the excavator (Wilkie 1992, 248, 270). The third is the pottery from the tomb that predates LH IIIA:2. This is regarded by the excavator as stray material introduced into the tomb by some process during its LH III use cycle (Wilkie 1992, 247–248). Some of this pottery comes from the fill of pit 1: the soil is recognized as being different in character from the matrix that the pit was dug into, and so it must have been brought from outside to fill the pit at some point after its construction. It contained MH, LH IIA, and LH IIIA:2 sherds. The excavator argues that the LH IIIA:2 sherds belong to objects originally deposited within the tomb, whereas the LH IIA and MH sherds are intrusive. Other objects in the pit likely to predate LH IIIA:2 are again described as heirlooms (Wilkie 1992, 249). The fill of pit 2 also contained LH II sherds, some joining with LH II sherds on the floor of the chamber.

Occurrences of pottery predating LH IIIA:2 are rare, but the presence in pits 1 and 2 of pottery of LH IIA–IIB date, LH IIB pottery on the floor of the tomb, the presence in each of the four pits of material predating LH IIIA:2, and the lack of LH III material in the fill behind the dromos walling must surely at least suggest (though certainly not prove) that the construction date of this tomb could fall within LH IIIA:1, LH IIB, or even LH IIA. All of the material within the tomb is in a secondary position, and so it would not be surprising if there were a cycle of use predating the main pottery group. Architecturally, the tomb has no special features that would place it within the LH III period.

The sequence in M2 can be divided into several episodes, some of which cannot be ordered on the basis of the available evidence. The first is the construction of the tomb at an indeterminate date within LH IIA–IIIA:2. The second is the initial use phase of the tomb, of which there are no intact deposits, also at an unknown date within LH IIA–IIIA:2. It is to this early period that a burial involving body armor reminiscent of the Dendra cuirass should probably be assigned. Numerous highly fragmentary bronze pieces from this set were found redeposited throughout the tomb, with the sole exception of pit 3 (Wilkie 1992, 253–255).

The third episode is represented by a deposit in pit 3, material which was either introduced into the tomb at this time or relocated from existing deposits in the tomb at an indeterminate date within LH IIIA:1–IIIA:2. This deposit probably predates the destruction and removal of the main elements of the body armor, because it is the only deposit anywhere in the tomb not to contain fragments of that armor. This would make it the earliest intact deposit in the tomb, although it is itself a secondary deposit. It need not predate the deposit of the armor in the chamber, however; indeed, the excavator suggests that the bronze objects making up this deposit may have originally been part of the cuirass burial context (Wilkie 1992, 253), and this seems quite likely. The material consisted of seven bronze vessels and a fragment of another, a sword and four other bladed items, and a mirror (Wilkie 1992, 252). The selection of these objects, their deformation, and their deposition in pit 3 would therefore

predate (perhaps by a short time) the processes that led to the destruction of the armor and the removal of its major components from the tomb.

A fourth episode entailed the rearrangement of floor contexts and the placement of a sealed deposit in pit 4, again at an unknown date within LH IIIA:1–IIIA:2. Much of the datable material in the pit 4 deposit is Early Mycenaean (Wilkie 1992, 248), but the deposit itself is secondary. The presence of fragments of the body armor mentioned above suggests this deposit postdates pit 3 and therefore falls within the LH IIIA:1–IIIA:2 bracket. The deposit consists of the remains of four individuals in disarticulated state, with the bones divided into four discrete groups. No pottery was deposited here, and objects were small or broken: sealstones, beads, small bits of gold, and bronze objects. By this stage, therefore, at least four burials had taken place in the tomb (unless any of this material was introduced from elsewhere; we might imagine the skull lost from the extended burial in M1 in the construction stage of M2 to have been deposited here), and several original contexts had been rearranged. The bronze cache had been crushed into pit 3, and the cuirass was damaged and probably removed from the chamber. Bones had been reburied in pit 4, but very little of the material culture of the funerals was placed with them, nor any of the pottery items likely to have been present originally. The fragmentary material in pit 4, along with the destructive interference documented on the cuirass, suggests that by this stage the deposits and materials had been heavily remodeled.

A fifth episode consisted of the rearrangement of floor contexts and of the deposit in pit 1 in LH IIIA:2. The early history of this shaft grave (pit 1) is completely obscure. It may have been constructed at the same time as the tomb or later; its final phase, which the excavation documented, involved the complete removal of all material from the lower chamber, which was then resealed. It was found intact, but empty, during excavation. (Nancy Wilkie, rightly in my view, dismisses the possibility that pit 1—and, by analogy, pit 2—was originally a cenotaph; Wilkie 1992, 250.) The fill above the cover slabs seems to have been composed of the redeposited original fill, including some of the original material content of the upper pit fill. It also included sherds of LH IIIA:2 date that were found to join with others that remained on the floor of the tomb. The bone material came from at least two individuals, but this material is not described in the final report and may have been very scant, perhaps part of a mix of material redeposited from the floor at the same time as the main fill of the shaft was put back.

The number of subsequent episodes of use in LH IIIA:2–IIIB:2 cannot be determined, but they affected the tomb floor and pit 2 only. The latter pit was also a shaft grave, though with the lower grave not stone-built but formed by a narrowing in the shaft allowing for the placement of cover slabs. As with pit 1, the lower chamber had been emptied out, but in this case the cover slabs were disturbed; the fill of the pit was a mix of soils recognized as relating to different phases. Thus, this pit was most likely filled at least three times: after the initial burial, after the initial burial was removed, and once again after a third intervention (in LH IIIB:1 or perhaps LH IIIB:2), when the pit was refilled with a mix of the original fill and later soil that had accumulated on the tholos floor in the LH IIIB period. During this final intervention, the cover slabs were disturbed but not completely removed, and a LH IIIB:1 cup was placed with them, along with parts of a flask of LH IIIA:2 or LH IIIB:1 date. Although these items seem like deliberate deposits, the other contents of the pit, as in pit 1, are mainly fragmentary metal objects and beads, some joining with items found on the tholos floor. Only a few bone fragments are reported to have come from this pit. Its fill would seem to match that of pit 1; therefore, we can propose that the fills were formed in similar episodes of deposition (perhaps at the same time). The difference in pit 2 is the LH IIIB intervention, which saw the deposition of the cup and the flask at the bottom of the grave. Most of the other items in the fill result from the same fill having been returned to the shaft, somewhat mixed with soil deposited on the floor of the tomb in LH IIIB.

The arrangement of material on the floor of the tomb at the end of its use life is not reported in detail (although all the objects are cataloged and described). It is reported that material was found all over the floor, except the southeast quadrant. Bones of at least eight individuals were among this material, probably not concentrated in groups. The material on the floor was fragmentary, including the pottery, none of which could be fully restored, despite careful recovery methods (Wilkie 1992, 255). Much material had been removed from the tomb,

as is perhaps confirmed by the generally low overall total of vessels, especially when considering the longevity of the tomb's use. Wilkie inferred that a final burial in the tomb was associated with two pots, both almost complete, one probably and one certainly LH IIIB:2 in date (1992, 256–257). However, no burial survived intact, suggesting that if there were a burial in LH IIIB:2, it was followed by a further intervention (assumed to be an episode of "plundering" by Wilkie [1992, 257–259]). An alternative possibility, perhaps better fitting the evidence as we have it, is that these two pots and a further LH IIIB:2 kylix in the stomion attest to low key and irregular ritual activity occurring long past the main time of use of the tomb.

The final distinct phase of use occurred during the Classical period (Wilkie 1983). This probably caused some disturbance to the floor, but it may not have been significant.

To summarize, although a construction date of LH IIIA:2 is possible and fits the evidence, a date sometime within LH IIIA:1 or slightly earlier is perhaps even more likely. Some of the deposits in the tomb are well dated, and a number of episodes of activity can be defined. The main period of use of the tomb is likely to have come to an end sometime in LH IIIB:1, and later episodes in LH IIIB:2 were of a minor character.

Tomb M2 has been accorded considerable significance in the interpretation of the political role of Nichoria during the Mycenaean palatial period. John Bennet (1995, 1999) has suggested that the presence of a megaron at Nichoria in LH IIIA:1 indicates political independence; the fact that it went out of use in LH IIIA:2, at the same time as the construction of M2, marks a significant discontinuity best explained by Nichoria having assumed a subordinate role within a political hierarchy dominated by Pylos (see also McDonald, Dickinson, and Howell 1992, 766). We have now seen that M2 may well have been constructed before LH IIIA:2 (although the destructive removal of the cuirass burial might just as well be argued to represent Bennet's "discontinuity"). However, the argument does not explain the full range of activity in the Nichoria cemetery. It is conspicuously not the case that earlier tombs were deprecated in the LH IIIA:1–IIIA:2 phase: we have already seen evidence for the continuing use of N4, including careful curation of earlier material in later phases, and the Veves tomb itself was in use into the LH IIIB period. Other tombs on the Tourkokivouro ridge were in use during LH IIIA–IIIB (see Table 15.1), suggesting the ongoing acceptance and utility of these (probably by then antique) tombs for that section of the population using them. From the little we know, this seems not to have been the case with the Akones group, but here the evidence argues for discontinuity at the end of LH I. There is minimal evidence for use of the Tourkokivouro group during LH II, suggesting that this group perhaps experienced a hiatus at the end of LH I. Unlike the Akones group, however, these tombs were reused during LH III, and the LH II period is well attested in the Veves tomb and M1, showing that there is no general discontinuity of use at any point for the cemetery as a whole until late in LH IIIB or LH IIIC. Rather, the foci of tombs in use shifted over time. The sequence for the cemetery overall, as far as can be reconstructed from the variable evidence at hand, is summarized in Table 15.3.

The construction of M2, the largest of the Nichoria tombs, can be seen as a major event, but not one completely eclipsing the general continuity of the cemetery. At 6.6 m in diameter, it is larger than Veves (5.1 m) or N5 (5.2 m), but well within the

Time Period	Akones	Tourkokivouro	Veves	M1/M2
LH I	Yes	Yes	Yes	No
LH II	No	No	Yes	Yes
LH IIIA:1	No	Yes	Yes	Yes
LH IIIA:2	No	Yes	Yes	Yes
LH IIIB	No	Yes	Yes	Yes
LH IIIC	No	Yes	No	No

Table 15.3. Shifting foci of tomb use by period.

general range of mid-sized tombs. Its construction marked another shift in focus within the cemetery, but far from the other tombs being abandoned, the evidence rather suggests a renewed period of activity. This activity necessarily referenced, and reverenced, the histories of tombs and individuals buried in them and the cemetery as a whole. Moreover, activity was far from exclusively focused on M2.

Tomb N3, at the apex of the Tourkokivouro group, is the most architecturally impressive tomb in the cluster and the only one of the main group to have its stomion preserved, with evidence also of a peribolos. The latter architectural embellishment would have been necessary given the position of the tomb at the summit of the ridge, whereas N2, N4, and N5 were built into the slope and so were, effectively, partly underground. The position of N3 at the summit required that it have its own mound, retained by the peribolos wall, to maintain its corbeled construction (see Cavanagh and Laxton 1981 for tholos tomb statics). The lack of such periboloi for the lower tombs partly explains the loss of parts of the architecture through erosion downslope. It also offers a hint of a structuring of the relationships between these tombs, with the one on the summit having slight architectural refinements and the three lower tombs occupying seemingly subordinate positions. This contrasts with what we know of the comparable (still incompletely excavated) mound at Kaminia, where five tombs range around the side of the mound like N2, N4, and N5, but with no evidence of a central tomb comparable to N3.

The material from N3 belongs entirely to phases within LH III. There are three main contexts within the tomb: a lower level, its associated pit, and an upper level. Although it is possible to posit alternative sequences, the simplest hypothesis suggests that the upper level was laid on top of the deeper remains at a late phase. It is unusual, however, for the main floor of the tomb to be below foundation level. The end of the earliest documented phase is evidenced by the pit, which contained at its base an extended articulated burial, the skeleton arranged to suggest the body had been wrapped tightly in an unadorned shroud. As with the pit in M2, the bones of at least seven other individuals were found in the pit fill; no artifacts were observed. Again as with M2, the inhumation and filling of the pit took place as one act, the new inhumation becoming a focal point for the deposition of bones collected for that purpose. This represented a major reordering of material in the tomb, and the closure of the pit also closed that context so that it was no longer encountered in visits to the tomb but was monumentalized through the use of covering slabs on the floor.

A second instance of production of context highlighted by this tomb is the final ordering of the lower level before the remains were covered by the upper floor. This phase is also marked by an intact inhumation (a contracted burial on top of the cover slabs of the pit). Two groups of bones took up most of the available space away from the entrance and the cover slabs of the pit. Some pots were deposited between the concentration of bones on the floor and the articulated skeleton on top of the pit closure slabs, hinting that they may have been used in the final rituals that produced the arrangement as excavated. This phase concluded with the covering of all of the remains in soil to create a new floor level at the depth of the foundations.

The Cemetery in the LH IIIB:1–IIIB:2 Periods

We have seen that in the LH IIIA period the use of the cemetery was by no means confined to M2; in fact, the cemetery as a whole was being used more intensively in that period than in any other. This impression is confirmed by the apparently sporadic use of the tombs in the LH IIIB period, culminating in the disuse of all but one of them before the end of the period. The evidence for the use of M2 in LH IIIB:1–IIIB:2 has been discussed above. In N3, the final phase of use on a newly laid floor that covered the LH IIIA levels resulted in three concentrations of material placed around the walls, one on each side of the entrance and one opposite the entrance in the rear. These three discrete concentrations each included one skull. The three datable objects date to LH IIIA:1 (two objects) and LH IIIB; the former had been removed from the lower level before it was covered over (as shown by joining fragments), while the latter must represent the final instance of use of the tomb. This arrangement

became final when the tomb—whether through accident or inducement—collapsed at an unknown later point. Nearby N2 contained a mixture of LH IIIA and LH IIIB objects, though, again, mostly LH IIIA. Tomb N6 was remodeled after the end of the Bronze Age but was found to contain some LH IIIB material. The Veves tomb also contained a small amount of LH IIIB material.

Overall it seems that there was a continuing use of a number of tombs, and therefore of the cemetery as a whole, but on a much reduced scale from preceding periods and with less deposition of material. Primary burials may have been rare, and it is even possible that all LH IIIB activity was restricted to secondary rituals. Bennet (1999, 146) has suggested that tholos tombs in Messenia other than those at Pylos went out of use by the end of LH IIIA. While this is not the case at Nichoria, the clearly changed—and diminished—pattern of use observed in LH IIIB goes some way to confirming his analysis. Moreover, recent research suggests that even at Pylos the intensity of tomb use was very low in LH IIIB, with tholoi IV and V out of use before the end of LH IIIA and only tholos III continuing in use at this time (Murphy 2008; this vol., Ch. 16; Schepartz, Miller-Antonio, and Murphy 2009, 158–159).

Evidence from the dromos and stomion of M2 shows that the process of reopening the tomb became progressively less elaborate; later episodes may only have involved removal of a small section of blocking wall and a small volume of soil from the dromos. There can be no suggestion of a grand procession with the corpse in this case; these final visits were to perform secondary rituals only. This observation is well matched with the evidence from tholos III at Englianos (Blegen et al. 1973, 73–74) and the recent, very careful excavation of a chamber tomb dromos near Nemea has shown a similar pattern (Wright et al. 2008, 635–641).

Becoming Mycenaean: Action, Meaning, and Identity in Tomb, Cemetery, and Wider Regional Context

The funerary practices evidenced around the MH/LH transition at Nichoria place that community at the heart of the rapid development from traditional Middle Helladic mortuary forms and practices through the stages outlined in Table 15.2 above. Along with the closely comparable sites of Kaminia and Gouvalari, as well as related developments seen in the early tombs at Volimidia (for extensive references, see Boyd 2002, 138), the "MH–LH grave" at Peristeria (Korres 1976, 485–506; Boyd 2002, 167–174), and early tholos tombs such as those at Koryphasion (Kourouniotis 1925–1926; Boyd 2002, 125) and tholos V at Englianos (Blegen et al. 1973, 134–176; Boyd 2002, 147–152; Murphy, this vol., Ch. 16), Nichoria was part of a regional milieu in which shared or competing rituals, architectural forms, and material production, circulation, and consumption were innovated, scrutinized, and embellished within and between communities and groups. Key among these developments were the architectural advances of multiple-use tombs built to accommodate—and conceal—the living participants in innovative rituals involving the presentation of the corpse within an ordered architectural and ancestral setting, drinking or libation over the corpse, and rituals involving the reordering of the material content of the tomb. The consumption of rare or exotic materials, especially in the dress items of the corpse, is also attested, though not very intensively. Leaving aside the question of preservation, the Nichoria cemetery displays a clear difference from the Peristeria "MH–LH grave," from the almost contemporary tholos 3 at that site, and from more distant Mycenae with its shaft graves (Boyd, forthcoming b). The innovations in practice attested at Nichoria show that the early Mycenaean mortuary identity—in all its variations—was usually expressed here without great emphasis on exotica and the dress of the corpse; these were to become a key part of the funerary scene later in the LH I period and into LH II.

The cemetery's next major period, LH IIIA:1–IIIA:2, sees much continuity in its use (after a hint of less intensive activity in LH II); the construction of M2 was followed by the rather spectacular

cuirass burial, and some early material came to be deposited in M2, perhaps gathered from nearby tombs. Although by now "ordinary" tholos tombs had been the norm in Messenia for some time, and the construction of M2 shows Nichoria's participation in that wider phenomenon, interest in the smaller tombs continued (and indeed some of them may even have been constructed in this stage). By continuing actions involving the reorganization of contexts and the deposition of contemporary pottery in juxtaposition with the older pottery in the tombs, as well as primary burial rites, the place of these by now ancient and unusual tombs was maintained within both local and regional customs, and the possibility for local variability in wider traditions was honored and celebrated. Indeed, it is possible that the destruction of the presumed entrance and part of the wall of M1 during the construction of M2, rather than being merely accidental, was in fact quite deliberate, so as to incorporate the very fabric of the earlier tomb into the later.

During LH IIIB, some tombs were not used and others were perhaps entered only sporadically. With no evidence for burial in this period, it may be that the tombs were used only occasionally, and rarely for primary burial. This pattern is maintained into LH IIIC and beyond, but with the expansion of the cemetery northward in the DA I–II periods, some of the Bronze Age tombs were once again reused and partly remodeled, staking a claim to a tradition begun here many centuries earlier.

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CHAPTER

16

The Varying Place of the Dead in Pylos

Joanne Murphy

This paper presents the results of an ongoing project that constitutes a reexamination of the artifacts and excavation notebooks of Carl Blegen's excavation of the tombs around the Palace of Nestor, Pylos.* A common understanding of these tombs is that the mortuary system legitimated the power and status of privileged palatial elites and that chamber tombs and tholos tombs represented arenas of social competition during the rise and zenith of the palatial society. Inherent in these arguments is the assumption that different types of tombs were used at the same time and that the role of the tombs in the society remained static over time. In contrast to these interpretations, my study reveals that there were chronological differences in the use of different types of tombs, and that while the tombs may have been arenas for social competition in the Early Mycenaean period, they were unlikely to have served this role in Late Helladic (LH) IIIB. It also shows that most chamber tombs did not play a major symbolic or ideological role in competitions for status during the palace's economic and social zenith. The changes in mortuary activity, combined with the refocusing of the economic expenditure at the palace, suggest that the ways in which the Pylians incorporated

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their ancestors into their power strategies altered over time.

Arguments for elaborate ideological use of ancestors in past societies have dominated archaeological literature on tombs in recent years (see Parker Pearson 2000; Whitley 2002). While it is true that ancestors commonly play a large role in the sociopolitical strategies of various societies, it is not always the case. Studies illustrating when and where such manipulations of the ancestors come into and fall out of prominence as social strategies for negotiating power and prestige are infrequent (Hodder 1990; Bradley 2002). My research shows that cemeteries and ancestors at Pylos played significant roles in negotiating power strategies in the Early Mycenaean period, during the growth of the palatial economy, but not in the LH IIIB and LH IIIC Phase 1 periods during its zenith. Variations in the prominence of cemeteries and ancestors at Pylos, for which I argue here, show that Pylos did not use the same power strategies as Mycenae. Nor does Pylos fit the common models suggested for the ancestors in agrarian societies or in stratified chiefdoms. In this paper, I briefly outline some of the fundamental problems with modeling the role of the ancestors in Pylos using data from either pre-state agrarian societies or chiefdoms. I then discuss problems with applying generalized ideas about Mycenaean mortuary systems to Pylos. In the latter part of the paper, I present the evidence from the Pylian tombs and palace and discuss how changes in the mortuary sphere relate to the palatial economy.

Arguments about ancestors tend to focus on their role in creating group identity and justifying a group's or an individual's right to restricted resources. However, a close look at the sources for these arguments shows that the situations in which they are applicable are limited. According to Ian Hodder (1990), the dead are brought to the forefront of society at the point of domestication, while Christopher Carr (1995), Arthur Saxe (1970), and Lynne Goldstein (1980) all argue for the close relationship with the dead and the land. These ethnoarchaeological studies underscore the strong connection between the land and the dead, most noticeably when there is scarcity of resources or a threat to the access to resources. The importance of the dead in these societies is visibly and materially expressed in the wealth consumed in the tombs through objects placed with the dead, elaborate funerals, and the architecture of the tombs. The ancestors' significance is also expressed through the maintenance and use of the tombs over long periods of time. One of the fundamental problems in using these ethnoarchaeological hypotheses and their derivatives in relation to Pylos is that much of the data was gathered in pre-state agrarian societies (Saxe 1970; Goldstein 1980; see also Morris 1991). These societies are fundamentally different from Pylos. They are economically reliant on their agricultural surpluses and use corporate strategies to negotiate power, that is, they stress group identity and kinship groups. In contrast, Pylos, with a developed bureaucracy at a large center/palace, was an archaic state at the time of its collapse, with a complex economy that incorporated both staple and wealth finance (Galaty and Parkinson 2007, 26; Nakassis 2010) and used network strategies in power negotiations, that is, power was more individualized and reliant on access to prestige goods.

These cultural uses of the ancestors and tombs are not limited to small-scale agrarian societies. Ancestors also play key roles in power strategies in larger, highly stratified chiefdom societies such as those of Madagascar and Polynesia. In such societies, ancestors are commonly a key element of local religion, and the members of these societies invest large amounts of wealth in their tombs. As in the pre-state agrarian societies, there is also a scarcity of land in these highly stratified chiefdoms. In the cultures of both Madagascar and Polynesia, monumentality is associated with the high-ranking chiefs. The largest investment is in monumental buildings for their ancestors (Madagascar and Tonga) and for their religion (Hawaii). Their investments in death and religion eclipse their investment in domestic areas (Bloch 1971; Kirch 1990, 207–208; Kolb et al. 1994). Similarly, Melanesian island chiefs spend great wealth on funerals and ancestors (Damon and Wagner, eds., 1989). It is my contention that these models, which stress both the social value of the ancestors through the wealth in the tombs and the use of the ancestors in legitimating social and political status, do not apply to Pylos for the LH IIIB period or LH IIIC Phase 1. My argument does not imply that the dead were unimportant, that wealth was not invested in the funeral, or that they were not respected. Instead, I argue that the roles of the ancestors varied over time as the Pylian economy changed.

In order to lay the groundwork for my arguments about the political roles of Pylian tombs and ancestors, I must discuss common arguments about Mycenaean tombs. Much of the debate about Mycenaean mortuary systems has focused on the social identity of the people using chamber tombs and tholos tombs, tombs as arenas of social competition, and ancestor cults. The nuances of these arguments, however, have changed over time. The discussions have focused on two main divisions: the identity of those in the tombs and the passive or active use of tombs in the society.

Since the earliest studies of Mycenaean Greece, scholars have argued that chamber tombs and tholoi were related to the social hierarchy, with the ruling elite using the tholos tombs, almost everyone else using the chamber tombs, and the lowest social echelon using the pit or cist graves. Christos Tsountas, as early as 1897, suggested the chamber tombs and tholos tombs, because of their frequent close proximity to one another, were associated with the social hierarchy (Tsountas and Manatt 1897, 131). Traditionally tholos tombs were understood to be the tombs of the royal families. In the past few decades, most scholars have shied away from identifying those buried in the tholos as royalty and have argued that they were used, rather, by elites and the richest people in society. Several scholars have claimed that the equation of leader/ruler and tholos tombs is inaccurate, proposing instead that anyone with sufficient wealth and prestige could construct and use a tholos (Mee and Cavanagh 1984; Wilkie 1987, 127; Wright 1987, 172–176; Kontorli-Papadopoulou 1995, 121). This is argued especially for Messenia (Wilkie 1987, 127; Wright 1987, 176).

One of the main implications of focusing so intently on the difference between tholos tombs and chamber tombs is that it both blurs and ignores other divisions of wealth in the society. From the archaeological literature, one gets the impression that there were only two strata in the society, or at least only two strata that mattered. Recently, the traditional view of the relationship between tholos tomb users and chamber tomb users has been refined to show the internal divisions of wealth in the chamber tombs and the difference in the dates of the construction of the two tomb types. Christopher Mee and William Cavanagh (1984) drew attention to multiple levels in the social hierarchy and have argued that chamber tombs were used by all of the non-slave populations of Mycenaean society (see Lindgren 1973). In their study of chamber tombs around Mycenae, Dendra, and Prosymna, Cavanagh and Mee (1990, 56) distinguish four wealth groups in the chamber tombs. Cavanagh and Mee also point to the diachronic changes in chamber tombs and tholos tombs. They report that in the tombs excavated by Alan Wace and Blegen, at Mycenae and Prosymna respectively, there is a clear trend from large and rich tombs in the early period to smaller and poorer ones in LH III (Cavanagh and Mee 1990, 62). Additionally, Cavanagh and Mee (1990, 63) observe that frequently the tholos tombs are later than the earliest chamber tombs.

While some scholars were exploring the greater division of wealth in Mycenaean tombs, others were discussing issues of agency in the tombs. The debate on the social use of the tombs has shifted from interpreting them as passively representing the social hierarchy to being actively manipulated by the society to legitimize claims to local resources and wealth (Voutsaki 1995, 1998). Much of the scholarship on Mycenaean tombs has focused on the Argolid and the area around Mycenae in particular. At Mycenae, Giampaolo Graziadio (1991, 440) draws attention to the shifts in mortuary systems through a detailed study of Grave Circles A and B. He argues that in LH I a new group broke away from those who had buried their dead in Grave Circle B and set up a burial area closer to the settlement in Grave Circle A. He also contends that the highest echelon of the ruling class was burying their dead in the richer Grave Circle A in LH II, while the older, poorer group was burying their dead in Grave Circle B. Furthermore, James Wright (Dabney and Wright 1990, 50) argues that during the Early Mycenaean period (Middle Helladic [MH] III–LH II) mortuary rituals played a large and prominent role in reaffirming Mycenaean political hierarchies. He points out that during the Early Mycenaean period there is little to suggest that there was a highly complex social hierarchy as is evidenced in the succeeding periods. Wright draws attention to the lack of highly developed central places, a lack of central storage, and the absence of a record system during the Early Mycenaean period, in contrast to the later era. He argues that death and burial were used as a means of reaffirming the elite group identity, consolidating power, and passing that power onto heirs. He further suggests that the tombs

were the most manifest displays of wealth by these elite groups. Wright postulates that the continuance of burial customs, as seen in the long-term use of chamber tomb cemeteries, and the construction of monumental burial buildings, such as the tholoi of Clytemnestra and Atreus (built in LH IIIB:1), reinforced patterns of allegiance to and worship of lineal ancestors. He also draws attention to the establishment of monumental ancestor cult settings in LH IIIB (i.e., Grave Circle A; Dabney and Wright 1990, 52). He argues that the rulers at Mycenae were drawing the focus to the ruling family and their ancestors as part of the final process of consolidating power in the hands of one ruler (see also Lupack, this vol., Ch. 13).

While these conclusions may accurately describe and explain the various roles of the ancestors at Mycenae, it is clear from the evidence that I present below that these contentions about stratified wealth, competition of elites in the mortuary arena, and the prominence of ancestor worship in LH IIIB only apply in a limited manner to Pylos. Tombs, as the place for the deposition of the dead, have great potential for political and economic manipulations. The question is not so much if the members of Pylian society used the tombs for social, political, and economic gain, but how they used the tombs and when that use changed. As stated above, it is clear that the model proposed for Mycenae of an active manipulation of the mortuary area and the establishment of an increased and elaborate ancestor cult during the LH IIIB period is not applicable to Pylos. If the tombs around Pylos were used as an arena for competition between elites, we should expect that there would be simultaneous mortuary activity at different types of tombs and that the periods of peak usage of the tombs would overlap. Furthermore, if members of the ruling elite at the palace were manipulating the tombs and ancestors as Wright has shown for Mycenae, we should expect that during the high point of the palatial economy there would be an increased investment of wealth in the tombs and the ancestors and that burials in the tombs would fall off after the collapse of the palatial system. In order to explore these issues, I present a chronological overview of the tombs and relevant evidence from the palace.

Chronology of Tomb Use

The corpus for this paper consists of three tholos tombs and nine chamber tombs. Among the tholoi are one grave circle, most likely a tholos originally, located about 500 m from the palace, Tholos IV, next to the palace, and Tholos III, southwest of the palace. The chamber tombs include seven on the Tsakalis ridge southwest of the palace, one southwest of the palace at a place known as Kondou (K-1), and one (K-2) located on Kokkevis family land about 3 km south of the palace (see Fig. 16.1). While most of the data presented below are from my restudy of the artifacts from the tombs, the dates for Tholos IV are taken from Blegen's publication (Blegen et al. 1973; for a comparable chronological overview of the tombs at Nichoria, see Boyd, this vol., Ch. 15).

In the immediate vicinity of the Palace of Nestor, the first evidence for mortuary activity is found in the Grave Circle at Vayenas (where the earliest pottery dates to MH III–LH I). This burial area was used predominately during LH I–II in the Early

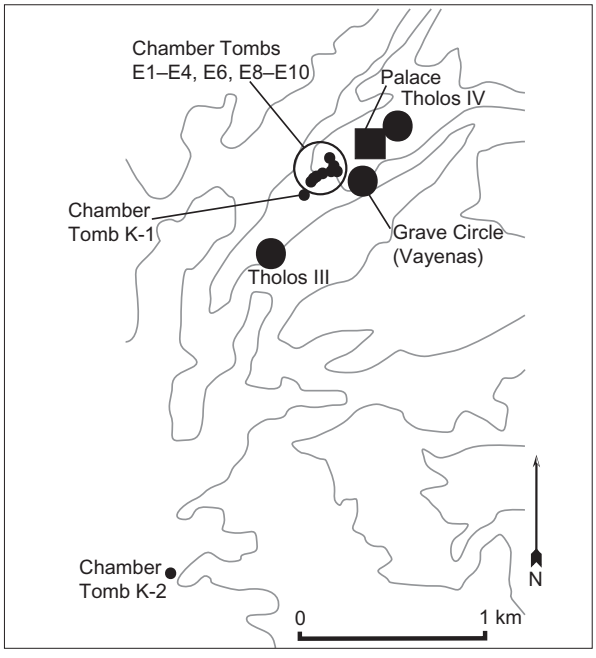

Figure 16.1. Map of Bronze Age tombs around the Palace of Nestor.

Mycenaean period. Initial use of the nearby Tsakalis chamber tomb cemetery dates to LH I, and it continues in use until LH IIIA:2, with limited reuse in LH IIIC, while the tholos tombs date to LH I–LH IIIB with some limited reuse in Tholos III in LH IIIC. Thus, the use of these tombs is contemporary with the periods of early monumental architecture and the palatial occupation of the hilltop of Ano Englianos. The dates of the mortuary deposits are based on the pottery that was found there. Some of these deposits are directly associated with skeletons and deposits of bones. Some are in groups around the tombs with no skeletal association, and some are isolated in the tomb. Analysis of the objects from the tombs and the excavation notebooks clearly indicates that each of these tombs, or groups of tombs, had definite peaks in their use and that these peaks do not overlap with each other. Therefore, evidence from the tombs shows that while there is a small amount of overlap in the periods of usage of the tombs, the peak periods of use differ significantly.

The Tholos Tombs

There are three tholos tombs in close proximity to the palace: Vayenas, also known as the Grave Circle, Tholos III, and Tholos IV. Vayenas was the earliest of these tombs in use. From Figure 16.2, which indicates the results of my pottery analysis, we see that it was first used in MH III–LH I and peaked in LH II, during the first periods of monumental architecture on Ano Englianos (Nelson 2001, 2007; Rutter 2005). Use of this tomb during the later periods was very limited. There was some use in LH III, but it was limited to LH IIIA:1.

Despite the relatively large number of MH sherds found in the excavation of Tholos III, most of these sherds were fragmentary body sherds and cannot be securely connected to mortuary activity at the tomb. The earliest secure use of the tomb is LH II, which may also be the date of its construction. The tomb was used during the early palatial periods, LH II and LH IIIA:1, peaked in use in LH IIIA:2–IIIB, and continued to be used in LH IIIC Phase 1 and LH IIIC Early. Dating the use period(s) of Tholos IV is problematic. Although pottery was found in the excavation, there were very few mendable pots, suggesting that the sherds that were found there were not associated with burials in the tomb but were broken during its construction. William Taylour gives a late MH or early LH I construction date for Tholos IV. Based on the large amount of MH sherds in the tomb and the stark lack of whole MH pots, Taylour suggests that the tomb was built into a MH settlement (Blegen et al. 1973, 107–108). In his excavation, Taylour unearthed four mendable pots dating to MH–LH II. The majority of the pottery sherds found in Tholos IV date to MH–LH I and II (Blegen et al. 1973, 107–108). Although Taylour (Blegen et al. 1973, 113) identifies a small number of the sherds as LH IIIB, Yannos Lolos (1987, 188) and John Bennet (2007, 34) both claim that Tholos IV seems not to have been used for burials after the end of LH IIIA.

The Chamber Tombs

There are three divisions of chamber tombs in the area of the palace: the Tsakalis cemetery, Kondou, and Kokkevis. The Tsakalis chamber tomb cemetery—consisting of two unfinished dromoi (E-1 and E-2), one simple pit grave (E-3), and five chamber tombs (E-4, E-6, E-8, E-9, E-10)—was located to the southwest of the palace, but still on the Englianos ridge, and it was initially used in LH II, that is, during the early periods of monumental architecture on Ano Englianos. Some earlier sherds dating to MH and LH I have been found in the area of these chamber tombs, such as at E-4, E-6, and K-1, but based on their small numbers and locations, these chronological outliers do not seem to be related to mortuary activity. Three of the six tombs, E-8, E-9, and the pit grave E-3, all show use in LH II. Only one pot and two fragments found in these tombs can be dated before LH II. Late

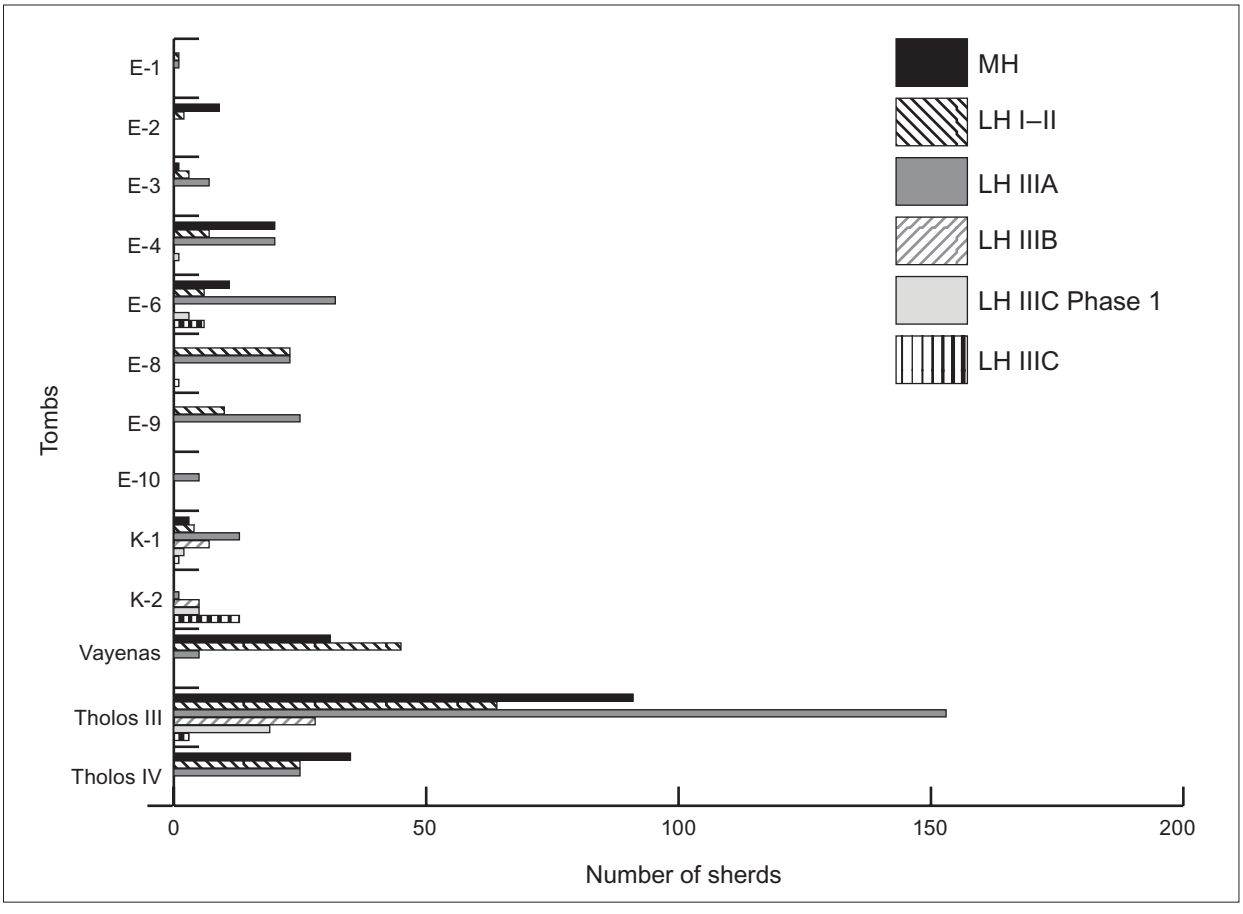

Figure 16.2. Chronological use of tombs around the Palace of Nestor. This chart shows densities derived from individual pots based on the sherds and pots that were mostly whole at the excavation. For clarity, the densities of LH II–IIIA:1 pottery were combined with LH IIIA:1 and IIIA:2, while LH IIIA:2–IIIB material was combined with LH IIIB.

Helladic IIIA, when the palatial buildings were further developed, was the peak of use in the cemetery, with burials in four chamber tombs. At least three, E-4, E-6, and E-10, were first used in LH IIIA:1. Although over time there was a decrease in the level of usage of the Tsakalis tombs, three were last used in LH IIIA:2. There was no material in the cemetery from the high point of the palatial period, LH IIIB and LH IIIC Phase 1, not even in the sherd material. There was, however, some limited reuse in the Postpalatial period.

The nearby chamber tomb of Kondou (K-1) was also first used in LH IIIA:1. In contrast to the other chamber tombs, it had a low level of use in LH IIIA:1, and peaked in LH IIIA:2. Its usage was minimal during the high point of the palatial periods, that is, LH IIIA:2–IIIB, LH IIIB, and LH IIIC Phase 1. Its last period of use was LH IIIC Early.

The chamber tomb that is farthest away from the palace, Kokkevis (K-2), was used initially but minimally at the transition between the destruction of the existing palace and the construction of the larger palace in LH IIIA:2–IIIB. It continued to have a low level of use into LH IIIC with slight variations in use intensity in LH IIIC Phase 1 and LH IIIC Early. It peaked in LH IIIC Middle and continued in use into LH IIIC Middle–Late.

In sum, the burial focus around the Palace of Nestor and the surrounding area shifted over time. In MH III–LH I, it was at Vayenas. It then moved to the Tsakalis chamber tomb cemetery and Tholos III. In LH II, there was mortuary activity at E-8, E-9, Vayenas, and Tholos III. This was a period of intense use in E-8, E-9, and Vayenas, but one of limited use in Tholos III. During the earlier palatial period, LH IIIA, use in Vayenas was extremely

minimal, but three new tombs were opened in the Tsakalis cemetery and used heavily during this period. Tholos III was also most heavily used during this period. By the later palatial period, LH IIIB, neither the Tsakalis cemetery nor Vayenas were being used. Burials were few during the later palatial period, LH IIIB and LH IIIC Phase 1, the high point of the palace's development. Only Kondou, Kokkevis, and Tholos III have a limited number of burials in LH IIIB. Tholos III continued to be used during LH IIIC Early.

If the tombs were being used as arenas of social competition and legitimization, we would expect to see intensive use in them simultaneously. We would also expect evidence of wealth invested in them, as we do in other chiefdoms where the chiefs communicate their rank and authority through their connection with the ancestors. At Pylos in the Early Mycenaean period, we do see the simultaneous use of chamber tombs and tholos tombs. The proximity of these tombs to each other and to the palace and the differences in wealth in their construction and contents suggest that the mortuary areas may have been arenas of competition and power negotiations. This picture changes, however, in LH IIIA, when there was a decline in the use of the tholos tombs Vayenas and Tholos IV, tombs that had been heavily used previously but only minimally in LH IIIA. In contrast, Tholos III and the chamber tombs at the Tsakalis cemetery were used most intensively during LH IIIA, and new chamber tombs were built in this period.

While the Tsakalis cemetery was expanding, the nearby chamber tomb at Kondou was also first used. It seems plausible that the new focus of the mortuary activity around the Tsakalis cemetery and continued use of Tholos III indicates a significant cultural shift in the symbolic use of tombs. This change in the cultural significance of tombs included drawing attention away from multiple tholos tombs to a single tholos and chamber tombs. It may be possible to argue for divisions of wealth similar to those that Cavanagh and Mee recognized in the Argolid, since it seems likely that these chamber tombs continued to be used as areas of competition.

In LH IIIA:2 there was another significant change: Kokkevis (K-2) was first used, Kondou (K-1) peaked in use, and there was a decrease in the number of tombs used in Tsakalis. Only Tholos III has evidence for significant use in LH IIIB, although there was minimal use in Kondou (K-1) and Kokkevis (K-2). The heavier use in LH IIIB of Tholos III may indicate its role in an exclusionary power strategy taking the form of "princely burial," as discussed by Colin Renfrew (1974) and Richard Blanton and colleagues (1996, 6). These dramatic changes in mortuary activity in LH IIIB occurred in conjunction with the evidence for the palace's expansion and economic growth, suggesting that changes in the mortuary arena were connected to the changing nature of the Pylian economy.

The archaeological evidence shows a contemporary use of the tholos tombs and chamber tombs in the Early Mycenaean period, then a falloff in use of the tombs at the palace's peak of economic development, and only a limited number of tombs being used in LH IIIC Phase 1, the period of the palace's destruction. While the tombs may have served as arenas of social competition and power negotiations in the Early Mycenaean period, this was not the case during the LH IIIB period and LH IIIC Phase 1. Instead of a growing or continued investment in the ancestors at Pylos, we see an increasing concentration of wealth at the palace and in the activities at the palace. At the same time as the economic growth of the palace, we see a prominent emphasis on the members of the palatial hierarchy in the Linear B tablets. In other words, the evidence from the tombs and the palace demonstrates that there was a shift in the way in which the members of the society were expressing their wealth by drawing attention away from the dead and the ancestors and directing that attention to the living.

The Palace and Its Economy

Analyses of the architectural developments at the palace, the power of the *wanax*, the connection between religion and craft production, the feasts at the palace, and the nature of the Pylian economy support my argument about the changing importance and significance of graves at Pylos from the

Early Mycenaean period to the collapse of the palatial economy. The evidence underlines the growing economic and social significance of the palace and the living. This transfer of the focus of wealth to the political economy centered on the palace explains the decline in the importance of ancestors, as the source of authority shifted to the palace itself (see Kolb et al. 1994). The mortuary system became a much less significant and less important element in the strategy of negotiating power in LH IIIB than in the previous periods, as the living replaced the tombs and the dead as the main focus in negotiating legitimacy and power.

The fact that the domestic arena replaced cemeteries as the location of primary power negotiation is evidenced in the growing of investment of wealth in the palatial buildings and activities. From the architectural changes at the palace site at Pylos, we know that it grew in size over time and that it was at its largest size in LH IIIC Phase 1, the time of its collapse. From the Linear B evidence, we know that there was a complex social hierarchy and that the center of that hierarchy was closely associated with the palace. Studies on the palace's size and architecture show that the palace grew significantly between the MH and LH IIIB periods. Blegen's excavations show that there were MH structures at the site before the Mycenaean period, while the Pylos Regional Archaeological Project (PRAP) illustrated that the MH settlement, including the later palace area, covered 5.50 ha (Davis et al. 1997, 430). Michael Nelson (2001, 2007) has shown that although there must have been some structure on the ridge before LH I, the first major and securely datable structure on Ano Englianos belongs to LH I. Bennet and Cynthia Shelmerdine (2001, 135) reported that the area in the immediate vicinity of the palace grew from 5.80 ha in the MH period, to 7.08 ha in LH I–II (the Early Mycenaean phase), and to 12.40 ha in LH III, with 2.00 ha dedicated to palatial buildings (see Bennet 2007; also Blegen et al. 1973, 95–134; Nelson 2001, 195; 2007). Another construction phase, which was destroyed by fire, is evidenced in LH IIIA or IIIB. The hilltop was leveled and the final structure was erected in LH IIIB (Nelson 2001, 182). During each of these phases there were periods of remodeling. Based on the presence of some LH IIIB pottery shapes and decorations and the early appearance of some LH IIIC characteristics, the palace seems to have been destroyed by fire in LH IIIC Phase 1 (Vitale 2006; French and Stockhammer 2009). The architectural spread of the palace with investment in storage rooms and palatially controlled craft production areas underscores the increasing wealth of the palace and its associated elites, contrasting with the contemporary investment in tombs and ancestors.

Directly relevant to this study of mortuary activity is the fact that the palatial structure included the Northeast Gateway, which seems to have been aligned with Tholos IV, built at the same time (MH–LH I). The Northeast Gateway remained in use in LH IIIA (Nelson 2001, 200), when three large buildings were built on the hilltop (Blegen et al. 1973, 7; Nelson 2001, 207), and went out of use at the start of LH IIIB. During the LH IIIB remodeling, the addition of Courts 42 and 47 cut off all access from the main building to the northeastern area (Wright 1984; Shelmerdine 1987, 559; Nelson 2001, 212). Two major buildings were also added in LH IIIB—the Wine Magazine and the Northeast Building. The alignment of the Northeast Gateway to Tholos IV suggests that Tholos IV may have played a role in affirming the elevated social and political identity of the palatial elite during the developing periods of the palatial economy. The restructuring of the palace and its spatial relationship to Tholos IV during the high point of the palatial period suggests that a change occurred in their relationship, one with a lesser emphasis on the ancestors than was characteristic of the earlier phases.

It is clear from the references to the *wanax* in the Pylian Linear B tablets that the *wanax* held significant political, economic, and religious authority over diverse aspects of Pylian society (Hooker 1979; Kilian 1988; Palaima 1995a; 1995b; Lupack, this vol., Ch. 13). Due to the limited temporal span of the Pylian Linear B, we cannot demonstrate a growth in the power of the *wanax*, as has been argued for other sites of the LH IIIA:1 to LH IIIB periods (Kilian 1988, 294; Palaima 1995a; 1995b; Wright 1995; Ruijgh 1999). The prominence of the *wanax* at Pylos, however, is clear from the references to his various elevated roles: overseeing the production and distribution of palatially controlled products, undergoing or presiding over a religious initiation at a public ceremonial banquet (Palaima 1995b, 131), distributing valuable furniture and vessels to appointed officials (Palaima 1995a, 631), making the largest contribution (including the

sacrificial bull) to ceremonial banquets (Palaima 1995b, 134), and having a role in a possible funeral (Palaima 1995b, 134). Blanton and his colleagues (1996, 2) argue convincingly that political actors draw on multiple sources of power (see also Wolf 1982, 97; Brumfiel 1992, 554–555). It is clear from the Linear B tablets that the *wanax*, as the holder of the highest position in the Pylian hierarchy and a main political actor, was drawing his "funds of power" from the production and distribution of prestige goods, from connections between production and the deities, and from large-scale social and religious rituals. From the Linear B records, it is apparent that the *wanax* was making use of the wealth stored in palatial buildings and activities sponsored by the palace as his primary power strategies.

Some of these palatial activities were feasts, which are the most prominent large-scale LH III rituals recorded on the Linear B tablets. Wright (2004, 34) states that there is not a lot of evidence for feasting until LH III. Sharon Stocker and Jack Davis (2004, 63) reported that of the six deposits of bones that were examined, none dated earlier than LH IIIA, and all of them most probably dated to LH IIIB. Stocker and Davis (2004, 63 n. 16) point out that there were other earlier deposits of animal bones around the palace, but none was similar to the large bovine ones that they discuss (see also Halstead and Isaakidou 2005). The dates of these deposits affirm that a new and pronounced emphasis on large-scale feasting occurred in LH IIIB. Stocker and Davis (2004), from the bovine skeletal evidence, suggest that the feasts could accommodate several thousand people. Similarly, Dimitri Nakassis (2010) contends that the feasts could feed 10,000–15,000 people based on the quantities of food noted in the Linear B tablets. According to Todd Whitelaw's calculations (2001, 64), this many people would have constituted approximately one third of the population of Messenia. Other Linear B evidence indicates that the state, centered at the palace, and the *wanax* were in charge of these feasts and strongly connected to them. Tablet Un 138, according to Thomas Palaima (2004, 109), suggests that the state was responsible for at least the feast recorded there and that the food was either provided by or situated at the palace. Tablet Un 718 connects the *wanax* to the provisioning of ceremonial equipment, ritual paraphernalia, and organizing the food for the feast (Palaima 2004; 2006, 63). The large size of the feasts and the fact that the state and the *wanax* were involved with them indicate that feasting was a principal power strategy.

The large palatial structure, the elevated and far-reaching roles of the *wanax*, and the nature of the Mycenaean economy all help to explain the changing role of the dead at Pylos. In a broad interpretive framework, Michael Galaty and William Parkinson (2007, 27) have defined the Mycenaean economy as network based. While in all societies corporate and network power strategies coexist to varying degrees (Blanton et al. 1996, 2), a predominantly network-based economy is individual-centered with exchange networks primarily outside the local group (Blanton et al. 1996, 4). The focus of the political economy is networking with nonlocal groups through marriage, payment through prestige goods or knowledge, and "prestational" events and goods, that is, events and goods that (re)produce and/or create society and relationships (Helms 1988; Blanton et al. 1996, 4). These economies are generally unstable because they rely on limited access to trade networks and prestige goods, which are used as payment for ceremonies of social reproduction, that is, ceremonies that confirm and reinforce the elites' elevated status and rights (Blanton et al. 1996; Peregrine 1998). Groups and individuals constantly compete to gain access to trade networks and prestige goods (Blanton et al. 1996, 4). The instability of these network economies leads to frequent volatility within their societies as a result of intergroup or elite competition. Blanton and colleagues (1996, 4) argue that competition to successfully create and maintain a network economy entails having more feasts, more warfare, and an increased production of desirable prestational goods. The archaeological evidence from the palace, as discussed above, easily confirms two of these three methods of competition: feasting and production of desirable prestational goods. The reference to military arms on the Pylian Linear B tablets may tentatively confirm the third (see Baumbach [1981, 29] for a summary of the literature).

Most of the evidence from Pylos fits the canonical model of a network economy, as I discuss below. However, in the case of Pylos, the relationship of the mortuary arena to this economy seems to

have been complex. In network economies, both Renfrew and Blanton point to the elaboration of burials as an exclusionary power strategy, that is, individuals attempting to gain power and prominence (Renfrew 1974; Blanton et al. 1996). They draw attention to the frequent presence of prestige goods, which are wealth investments, in burials that they refer to as "princely burials" (Renfrew 1974; Blanton et al. 1996, 6). Peregrine (1998) observed a similar pattern in his study of societies in the American Bottom floodplain, where there was an increase in prestige goods in burials at the same time as a shift from a corporate to a network economy. He also noted the continued use of the graves throughout the cycling from corporate to network and back to corporate economy.

If mortuary systems were playing a significant role in the Pylian economy during the LH IIIB–LH IIIC Phase 1 period, we would expect, as Peregrine observed (1998), multiple tombs with prestige goods. The only tomb in use in close proximity to the palace during LH IIIB was Tholos III. If the dead in Tholos III were from the palace and not from some other wealthy family, it is possible to conceive of the large and elaborate processions that Bennet (2007, 35) argues for between the palace and Tholos III, in the style suggested by Anna Sacconi (1987, 1999) based on Tn 316. These funeral processions, like all funeral processions, would communicate the position and wealth of the living. While Tholos III fits a model of a "princely burial" that was being used as an exclusionary power strategy, the falloff in the use of other nearby tombs complicates the issue. At Pylos, contrary to other regions, we do not see continuity in the use of preexisting graves, but an almost complete cessation of their use except for Tholos III. Nor do we see any evidence of the instability of the society expressed through competition at the tombs. In contrast to Mycenae, where Wright has argued for an elaborate use of the ancestors based on the construction of monumental tombs and the walling of Grave Circle A, at Pylos we do not have any evidence of such monumentality or massive amounts of wealth being newly invested in the ancestors.

By LH IIIB, Pylos had a wealth-finance economy focused on acquisition, display, and distribution of valuable goods (Galaty 2007, 85). What we see from the archaeological and textual evidence is that the main display and distribution of these goods was in the palace, where they were issued to members of the palace network. Only a small number of these goods were deposited in the tombs. Galaty and Parkinson (2007, 27) argue that Pylos's transition from a tribute state to a prestige goods state marks the intensification of exclusionary power strategies. Such changes in political strategy were not sudden, but occurred over time in small increments: the blocking of the access route from the palace to Tholos IV in LH IIIB, the rise in the investment in the feasting activities of the palace, the prominent role of the *wanax* in these feasts, the rise in wealth invested in the palace's structure and decoration, and the increase in the production and use of status symbols, such as chariots and perfume. All of these may have served as exclusionary power strategies; they also incrementally distanced the mortuary system from the mainstream of political legitimacy and shifted the investment of wealth and power from the ancestors to the palace and its hierarchy.

Power Changes

From this detailed study of the tombs at Pylos, we can see the complex and varying roles that mortuary practice played over time. In the Early Mycenaean period, given the use of multiple tombs of two types and the original spatial relationship between the palace and Tholos IV, it seems likely that the ancestors played a key role in the contemporary political economy. During that time, the cemeteries represented arenas of sociopolitical competition in which groups contested and created their status. During LH IIIB, given the reduced use of the tombs and the blocking of the access route to Tholos IV, it appears that the Pylians no longer used the mortuary system as their main power strategy. The lack of relative wealth deployed in the tombs suggests that the Pylians did not incorporate a cult area of the dead ancestors during the high point of the palatial economy, as Wright has argued for Mycenae.

During LH IIIB, the palace architecture, the elevated and far-reaching roles of the *wanax*, and the staging of elaborate feasts suggest that the identity of the leaders was well and truly established, recreated, and reinforced through the negotiations of power at the palace and its related activities. These power strategies overshadowed any role that the dead may have played in legitimizing rights to resources. This paper illustrates that while burials were a visible part of Pylian society during the Mycenaean period, the location of burials and tombs, their cultural value to the palace, and their relationship to the political economy were fluid and changed over time.

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CHAPTER

17

Working the Land: *Ka-ma* Plots at Pylos

Stavroula Nikoloudis

It was in Cynthia Shelmerdine's graduate classes at the University of Texas at Austin that I became increasingly aware of the underlying complexity and multiple, if often opaque, levels of interaction among the *dāmos*, palace, and religious sector in Mycenaean society.* The present contribution is offered to her as a small token of appreciation for her many years of illuminating work on the Mycenaeans. It explores the nature of *ka-ma* lands and the function that the *ka-ma-e-we* might have served in the sociopolitical and economic organization of Late Bronze Age Pylos.

Ka-ma land and the holders of such land, the *ka-ma-e-we*, feature in a number of Linear B texts from Pylos: the E series—specifically the Eo/En, Eb/Ep, Ed, and Ea texts—as well as An 261, Un 718, and An 724. Excluded from the present discussion are a couple of Knossos tablets in which *ka-ma* seems to reflect a toponym: KN Ap 637.1, L 520.2 (Aura Jorro 1985–1993, I, 309–310). As other sites have not (yet) yielded *ka-ma* references, the present paper focuses on the Pylian evidence.

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The PY E Series and Ep 613

PY Ep 613 (S74 H1)

.1 ne-qe-wo e-da-e-wo ka-ma]ọ-pe-ro[du-]wo-u-pi , te-re-ja-e ,
.2 e-me-de te-re-ja to-so-]de , [pe-mo] GRA 10 T 1
.3] *vestigia* [ke-ke-]me-na , ko-to-na , ka-ma-e-u , wo-ze-qe , to-so pe-mo[GRA] ṭ ʒ
.4 te-re-]ta , su-ko , po-ṛọ-du[-ma o-pe-ro-qe]du-wo-u-pi , te-re-ja-e[ ]o-u-qe , wo-ze[ ] *vestigia*
.5 to-]sọ-de , pẹ-mo GRA 10[ ] *vacat*
.6 ạ$_3$-ḳẹ-re-u , ạ-si-to-po-qo , ka-ma , e-ke-qe , wo-ze-qe , to-so pe-mo GRA 1 T [2
.7 a-•-ke-re-u , i-je-ro-wo-ko , ka-ma-e-u , o-na-to e-ke , wo-ze-qe to-so pe-mo GRA 1
.8 sa-sa-]ẉọ , o-na-to , e-ke , ka-ma-e-u , e-pi-qe , to-me , te-ra-pi[-ke]to-so , pe-mo GRA 1 T 5
.9 e-u-]ru-wo-ta , te-o-jo , [do-e-]ro , e-ke-qẹ[ka-]ma , o-na-to , ẉọ-ze-qe , ṭọ-sọ , pẹ[-mo] GRA 1 T 3
.10 pe-]ṛẹ-qo-ta , pa-de-we-u[e-]ke-qe , ka-ma , o-na-to , si-ri-jo , ra-ke , to-so , pe-mo GRA 1
.11 pa-]ṛạ-ko , e-ḳẹ-qe , ka-ma , ko-to-no-o-ko , e-o to-so , pe-mo GRA 1
.12 po-]sọ-re[-ja te-]ọ-jo , do-e-ra , e-ke , o-na-to , pa-ro , pa-ra-ko , to-so , pe-mo GRA T 1 V 3
.13 ḳọ[-tu-ro$_2$ mi-]ka-ta , pa-de-we-u , ka-ma-e-u , e-ke-qe , wo-ze-qe , to-so , pe-mo GRA T 5

Ten *ka-ma-e-we* appear on PY Ep 613.1–13, the text of which appears above. This tablet belongs to the land tenure records, known as the Pylos E series. The E series includes two groups of final documents compiled by Scribal Hand 1, which record landholdings in the region of *pa-ki-ja-ne*: (1) the En tablets list the *ki-ti-me-na* holdings of 14 high-status officials, the *te-re-ta* /*telestai*/ (En 609.2) and their tenants/subleasers and (2) the Ep tablets list the *ke-ke-me-na* holdings leased out by the *da-mo* /*dāmos*/ to various individuals. These final En and Ep records were compiled, respectively, from the preliminary Eo and Eb texts written by Hand 41 (Palmer 1963, 186–218; Ventris and Chadwick 1973, 240–264). Many of the leaseholders of both kinds of lands are connected by their occupational designations to the religious sector (e.g., *i-je-re-u* "priest," *i-je-re-ja* "priestess," *te-o-jo do-e-ro/-ra* "servant [masc./fem.] of the god[dess]"). These land parcels are therefore believed to have supported, for the most part, the personnel of the sanctuary called *pa-ki-ja-ne*, in the district known by the same name. The palace is thought to have been located very close to *pa-ki-ja-ne* (Lupack 2008, 44–50, with references).

It is important to note at the outset that there are many large gaps in our understanding of the Mycenaean land tenure system (Ventris and Chadwick 1973, 443; Killen 2008, 162). Several plausible interpretations still exist, for instance, regarding the nature of *ki-ti-me-na* and *ke-ke-me-na* lands. In the Ep texts, the formulaic *pa-ro da-mo* "*chez* (or from) the /*dāmos*/" (Killen 2008, 164) reveals that *ke-ke-me-na* lands were held from the *dāmos* of *pa-ki-ja-ne*. The *dāmos* could be interpreted as the whole village community (e.g., de Fidio 1987, 130; Killen 1998, 20) or, more specifically, its formal, local body of land administrators (e.g., Lejeune 1972, 146; Palaima 2004, 231). The land in question was closely connected to the local community. The nature of *ki-ti-me-na* lands is debated, however. Some scholars view the *ki-ti-me-na* of the En texts as palace property, granted to individuals or functionaries (the *telestai*) by the king as benefits in return for their service (e.g., Palmer 1963, 85–87; Deger-Jalkotzy 1983, 95–97, 102–103), while others argue that they too could have belonged to the *dāmos*, especially in view of their connection with the *telestai*, who are linked to the *dāmos* in certain contexts (e.g., Carlier 1987, 68–69; de Fidio 1987, 145–147). Still, the *telestai* would have been ideally suited to liaise directly with the palace (de Fidio 1987, 147). Whether *ki-ti-me-na* lands belonged to the palace or the *dāmos*, the discovery of the entire PY E series in the palatial archives seems to point to the palace's interest or involvement in calculating and collecting the contributions owed to it from all these recorded landholdings (Palmer 1998–1999, 240; Killen 2008, 162–163).

Etymologically, it is possible to think of *ki-ti-me-na* lands as "settled, inhabited" from *κτεῖμαι from the root **ktei-* > *kti-* "settle, inhabit" (from which the later κτίζω is derived) and *ke-ke-me-na* as either "lying" from κεῖμαι from the root **kei-* "lie" or "cut" from κεάζω from the root **kei-* "cut, split," the latter implying that there also existed

"uncut, unsplit" *dāmos* land (Aura Jorro 1985–1993, I, 366–367; Palmer 1998–1999, 230). Agricultural definitions have also been suggested, such as "cultivated, under cultivation" for *ki-ti-me-na* from the same root **ktei-* and "abandoned, fallow" for *ke-ke-me-na* from the root **ghē-* (e.g., Duhoux 1976, 17–27; de Fidio 1987, 145). However, according to this line of thought, it is difficult to explain how the *a-ki-ti-to* land on PY Na 926, as "uncultivated" land (with privative *a-*), should still be expected to contribute its forecasted flax contribution (Ventris and Chadwick 1973, 470) unless it was simply understood that the recorded forecast would not be met and it was treated as an exemption (Duhoux 1976, 172–173). Some scholars suggest that *ki-ti-me-na* lands were located close to the settlement and were of better quality, whereas *ke-ke-me-na* lands may have been situated farther away, as marginal land being made available when the need arose (Carpenter 1983, 88). A distinction between *ki-ti-me-na* as "private" land in the hands of the *telestai* and *ke-ke-me-na* as "communal" land managed by the *dāmos* is also prevalent, though not unanimously accepted (see Palmer 1998–1999, 238). Detailed overviews of Mycenaean scholarship on the land tenure records are provided by Palmer (1998–1999) and Lupack (2008).

The fact that some individuals held more than one parcel of land may be explained, in part at least, as related to economic strategies of risk management based on crop and soil diversity (cf. Palmer 1999, 465). The PY E tablets do not, however, specify the geographical locations of the lands that they record. Their chief concern seems to have been the total land allotments and the contributions expected from them (Bennett 1956, 120; Zurbach 2006, 271–272; Killen 2008, 163–164). At the end of each entry is a certain amount of GRA. This is thought to reflect the amount of seed grain required to sow a particular piece of land, thereby indicating its relative size/surface area (Duhoux 1974, 31; Del Freo 2005, 7). (For the estimate GRA 1: 1.92 ha, based on a sowing of 50 liters of grain per ha, following Near Eastern farming techniques, see Ventris and Chadwick 1973, 237–238, 394; for GRA 1: 0.55 ha, based on 175 liters of grain sown per ha, following Jardé's work on classical Greece, see Duhoux 1974, 31–33.) The contributions owed to the palace would have been calculated on the basis of the recorded information. While the holders of these lands were expected to provide a contribution (agricultural produce and/or perhaps service of some kind) to the palace in whose records they were registered, it is believed that there also existed other lands at *pa-ki-ja-ne* that did not carry such a levy and were not therefore recorded.

In the PY E series, *ka-ma* plots seem to constitute a type of *ke-ke-me-na* land. Since they are listed exclusively in the Ep set, it is reasonable to conclude that they, like other parcels of *ke-ke-me-na* land, were administered by the *dāmos*. The Ep set begins with tablet Ep 301, which lists parcels of land leased out to the *ko-to-no-o-ko* /*ktoinookhoi*/ "landholders," literally "holders of a *ktoinā*," as stated in line 2a, which could be viewed as part of the heading. Next, Ep 613 opens with the *ka-ma-e-we* "*ka-ma* holders" (Ep 613.1–13), and they are followed by an assortment of religious personnel who hold land in the remainder of the Ep tablets. The 12 *ktoinookhoi* (who include at least six *telestai* encountered in the En texts) are thought to have been intimately tied to the *dāmos*, possibly even members of its central committee or managerial board of administration (for details, see Lejeune 1972, 144, 146–147; Lupack 2008, 61). This theory is supported by the fact that the term *ko-to-no-o-ko* of the preliminary record Eb 297.2 is replaced by the term *da-mo* in the corresponding final record, Ep 704.5. This interchangeability is telling. The *pa-ro da-mo* formula is missing in some of the *ko-to-no-o-ko* entries, but this could be explained as the result of the realization that it was unnecessary or redundant to state that they were holding land "from the *dāmos*," since they *were* the *dāmos*. The reason for the absence of the *pa-ro da-mo* formula from the *ka-ma-e-we* entries is less clear, although it may be, as Susan Lupack (2008, 61) suggests, again simply a matter of its being omitted but implied, given the known association of these lands with the *dāmos*.

The 10 *ka-ma-e-we* listed on Ep 613.1–13 (see Table 17.1) are individuals of different backgrounds whose titles or cross-references based on their personal names generally suggest a high status. While designations are missing in the second and sixth entries, the first man, *ne-qe-u*, who is an *e-da-e-u* (meaning unknown), shares his patronymic *e-te-wo-ke-re-we-i-jo* (Aq 64.15) with an *e-qe-ta*

(An 654.8–9), suggesting that *ne-qe-u* might also be an *e-qe-ta /hequetās/*. The *hequetai* are generally accepted to be of elevated status, closely connected with the palace administration, carrying out both military and religious duties (Shelmerdine 2008, 131–133). The person *su-ko* is simultaneously designated a *te-re-ta* and a *po-ro-du-ma*, the latter position belonging to the local village-level administrative hierarchy, possibly reflecting a religious official (cf. *du-ma* in Palaima 2001, 158–159). In fact, *su-ko po-ro-du-ma* may refer to a "deputy-supervisor of figs" (for details, see Del Freo 2005, 95–97). If so, the resulting missing name of this third *ka-ma-e-u* might be *po-to-re-ma-ta* (Ep 539.7). This is a smith's name elsewhere in the corpus (PY Jn 601.4), but the lack of intertextual links leaves open the possibility that these were two distinct individuals sharing the same name. The eighth man, *pe-re-qo-ta*, is known from elsewhere (En 659.1) to be a *te-re-ta* (Aura Jorro 1985–1993, II, 106–107). The terms *ạ-si-to-po-qo* (line 6), behind which may lie an intended *a-to-po-qo* or **si-to-po-qo* "baker"/"cook," and *mi-ka-ta* "mixer" (line 13) may belong to the secular or religious spheres, while *i-je-ro-wo-ko* "sacrificing/officiating priest" (line 7) and *te-o-jo do-e-ro* "servant of the god" (line 9) are clearly religious in character, and *pa-de-we-u*, the title of two men (lines 10, 13), is taken to be a priest or religious functionary (Aura Jorro 1985–1993, I, 109–110, 276, 452–453, II, 66–67, 330). The potential number of *ka-ma* landholders connected to the religious sphere illustrates the trend of religious personnel noted for the PY E series as a whole and should not necessarily be viewed as a defining characteristic of *ka-ma* lands.

These 10 *ka-ma-e-we* are connected to the palace, the *dāmos*, and/or the religious sector. The multiple spheres of activity of many of these individuals may stem from the underlying processes through which the three main sources of authority in the Mycenaean world probably continually renegotiated and reinforced their respective positions of power and influence. These processes, often involving collaboration with preexisting local village systems of control and resource management (cf. Palaima 1995, 124–125; 2001, 154–155; Shelmerdine 1999, 23–24; Lupack 2008, 44–50, 92; Nakassis 2008, 560–561), would have resulted in many individuals owing professional service and personal allegiance to more than one entity at a time. For instance, *ne-qe-u*, very likely an *e-qe-ta* and, as such, a representative of the central palatial

Name	Title(s)	Landholding (and Obligation)	Action
(1) ne-qe-wo	e-da-e-wo	ka-ma o-pe-ro du-wo-u-pi te-re-ja-e	e-me-de te-re-ja
(2) [ko-i-ro]		ke-ke-me-na ko-to-na ka-ma-e-u	wo-ze-qe
(3) su-ko (?)	te-re-ta, po-ro-du[-ma	o-pe-ro-qe du-wo-u-pi te-re-ja-e	o-u-qe wo-ze
(4) a_3-ke-re-u	ạ-si-to-po-qo	ka-ma e-ke-qe	wo-ze-qe
(5) a-.-ke-re-u	i-je-ro-wo-ko	ka-ma-e-u o-na-to e-ke	wo-ze-qe
(6) sa-sa-wo		o-na-to e-ke ka-ma-e-u	e-pi-qe to-me te-ra-pi-ke
(7) e-u-ru-wo-ta	te-o-jo do-e-ro	e-ke-qe ka-ma o-na-to	wo-ze-qe
(8) pe-re-qo-ta	pa-de-we-u	e-ke-qe ka-ma o-na-to si-ri-jo ra-ke	
(9) pa-ra-ko (and po-so-re-ja)	ko-to-no-o-ko (te-o-jo do-e-ra)	e-ke-qe ka-ma (e-ke o-na-to pa-ro pa-ra-ko)	
(10) ko-tu-ro_2	mi-ka-ta, pa-de-we-u	ka-ma-e-u e-ke-qe	wo-ze-qe

Table 17.1. The 10 *ka-ma-e-we* recorded on PY Ep 613.1–13. Numbers in parentheses refer to individuals in order of appearance on the tablet.

administration, was also obligated, as discussed below, to fulfill certain requirements of the *dāmos* with respect to his *ka-ma* holding.

That a *ka-ma-e-u* actually denotes a "holder of a *ka-ma* plot" is clear from the alternation between *ka-ma-e-u* and the expression *ka-ma e-ke* "has/holds a *ka-ma*" between preliminary and final records (e.g., Eb 177.A/Ep 613.6, Eb 156.1/Ep 613.9). The land term *ka-ma* has been related to a gloss in Hesychius regarding a Cretan word for "field": καμάν· τὸν ἀγρόν, Κρῆτες (Aura Jorro 1985–1993, I, 309). The Mycenaean word is generally accepted to be a neuter singular noun *κάμας */kamas/*, based on the verb κάμνω "labor, toil, work" (e.g., Heubeck 1966, 268; Duhoux 1976, 29–30). As indicated in Ep 613.1–13, *ka-ma* plots usually have two main characteristics: (1) they are large, and (2) they have obligations attached to them. In terms of size, regular *ke-ke-me-na* plots often range between T 1–3, whereas *ka-ma* plots are usually around GRA 1 (= T 10) in size (Ep 613.6–13). The *ka-ma* holdings of *ne-qe-u* and *su-ko* are more exceptional, measuring about GRA 10 (Ep 613.2, 5). The obligations attached to *ka-ma* lands are not clearly understood, but Maurizio Del Freo's recent analysis (2009, see below) provides significant insights.

The three verbs indicating obligations, *te-re-ja*, *wo-ze*, and *te-ra-pi-ke*, are probably third singular present indicative forms based, respectively, on the verbal roots **tel-* "fulfill, complete (a service?)," **werg-* "work," and the noun /*t*^{h}*eraps*/ with a present verb in *-isko* equivalent to θεραπεύω "treat, care for" (Del Freo 2009, 37–46, with references). Forms associated with the verb *wo-ze* are found in contexts clearly related to work (as opposed to religious or other obligations) and would also fit here in the sense of working/farming the land: for instance, the participle *wo-zo-me-na* describes wheels in the process of manufacture on KN So(2) 4438, and the *we-ka-ta* BOS^{m} "working oxen" of KN Ce 59 refer to animals working the earth (Del Freo 2009, 42, 45). The apparent interchangeability of *te-re-ja* and *wo-ze* in *su-ko*'s record (Eb 149.1 and Ep 613.4, respectively) suggests that these two words may have had a similar meaning: *te-re-ja* may itself refer to bringing agricultural work to completion (Del Freo 2009, 40, 45–46). It is possible that *te-ra-pi-ke* also relates to agricultural work, especially given that θεραπεύω is used by classical authors in the sense of caring for, or cultivating, plants and vegetables (Del Freo 2009, 45, with references).

Most of the obligations noted on Ep 613 are satisfied, in part or in full. Six of the 10 men work their lands as required (*wo-ze* or *te-ra-pi-ke*). The person named *ne-qe-u* is obligated to work two holdings (*o-pe-ro du-wo-u-pi te-re-ja-e*) but works only one of them (*e-me-de te-re-ja*), while *su-ko* is obligated to work two plots but does not work them (*o-u-qe wo-ze*). Whether the negated verb reflects noncompliance or, instead, an exemption granted to the landholder is debatable (for the second option, based on exemptions similarly expressed in the Ma taxation series, see Del Freo 2009, 35–36). Relevant information is missing for *pa-ra-ko* and difficult to decipher for *pe-re-qo-ta*, where interpretations of *si-ri-jo ra-ke* range from Leonard Palmer's "in the allotment of *S*." (1963, 451) to Del Freo's toponym (2005, 96, 169–170).

Further interpretative difficulties arise with the small plot that *po-so-re-ja* holds from *pa-ra-ko* (Ep 613.12), and the leases that she (Ep 539.5) and *me-re-u* (Ep 539.7) hold from two separate *ka-ma-e-we*, whose names are not preserved, on a tablet otherwise listing regular *ke-ke-me-na* plots. It would seem that the two holdings in question on Ep 539 (ll. 5 and 7) were also *ka-ma* lands. In contrast, it is possible that *ko-i-ro*'s small plot (Eb 862/Ep 613.3), listed among the *ka-ma* plots of Ep 613 but described as a *ke-ke-me-na* plot, may not have constituted a *ka-ma* (see Del Freo 2009, 48). Outside of these ambiguous cases, the only plot of regular *ke-ke-me-na* type that had obligations attached to it was a double one, with a *wo-ze* obligation, held by *ka-pa-ti-ja*, the "key-bearer" (Eb 338/Ep 704.7–8).

Finally, the *ka-ma-e-we* of the Eb/Ep texts and their associated landholdings are noted on the totaling tablets Ed 236 and Ed 411 (for details and interpretations of the totals entered on these records, see Ventris and Chadwick 1973, 451–453; Del Freo 2005, 103–104).

The PY Ea series features only one certain *ka-ma* holding: Ea 28 states simply that a *ra-pte* "stitcher/leather-sewer" holds a *ka-ma*; there is no indication of associated obligations, and the plot size is not preserved (Del Freo, 2009, 46 n. 76). The Ea tablets share the same land terminology discussed above, but they deal with land that may have been situated in a different locality from that of the En/Ep tablets (Palmer 1963, 220; Lindgren 1973, II, 187).

On the basis of the evidence of the PY En/Ep texts, both the size and the attached obligations of *ka-ma* holdings suggest that these would have been intensively worked tracts of land (Duhoux 1976, 39–41; Del Freo 2009, 46–47). As early as the 1950s, Martín Ruipérez (1957, 206 n. 2) had associated the *wo-ze* obligation of *ka-ma* holdings with the act of plowing common fields with teams of working oxen. Del Freo (2009, 47) allows for the possibility that *ka-ma* tracts may have undergone radical processes of transformation whereby unused lands, such as wastelands or fallow lands, were turned into productive, cultivable lands. He adds that the obligations associated with such lands might also point to the actual cultivation and maintenance of the tracts, which could have been planted with vines, figs, and other fruit trees.

The "working" clearly associated with the *ka-ma* lands of Ep 613 may have involved the clearing of scrub and other dense vegetation, especially if located in the wilderness or on the outskirts of town, as well as plowing to prepare the soil for cultivation, and then planting, watering, controlling weeds, repeated digging (for tree crops) to increase moisture availability (cf. Foxhall 2007, 121–123), pruning if applicable, and picking or harvesting the crop(s). Any or all of these activities would have improved the quality of the land in question.

How might such relatively large tracts of land be accounted for within the sociopolitical and economic systems of land management and use at Pylos? To begin with, it is assumed here that regular-sized *ke-ke-me-na* plots may have featured small vegetable patches that provided daily sustenance for their leaseholders, many of whom would have held more than one plot, not all of which are registered in the Linear B records. In contrast, the products of the larger *ka-ma* lands would have surpassed the subsistence needs of a family (although, it must be acknowledged, there is still much work to be done on this topic). As a working hypothesis, it is tentatively proposed that the primary goal of the intensive working of the larger *ka-ma* plots was to support workforces, such as those gathered by the palace to perform specialized work at or near the center. Evidence for such workforces includes the building and craft personnel of the An texts, including the sawyers, potters, and bowmakers of An 207 (e.g., Deger-Jalkotzy 1998–1999; Killen 2006, esp. 77–85) and the female textile and other workers of the Aa-Ab series (Chadwick 1988). The women of the A series are often thought of as dependent personnel, who were supplied with subsistence rations by the palace, but Alexander Uchitel (1984, 273–282, esp. 276) uses parallels from the Mesopotamian Ur III dynasty (end of the third millennium B.C.) to propose that some of them, like many of the male workers noted above, were corvée laborers. These individuals were engaged by the palace at specific locations for a certain length of time during the year to carry out work for the palace administration, during which time their daily sustenance was provided by it. The blurred distinction between rations and wages, especially in the context of corvée labor, which is usually deemed to be (unpaid) obligatory work, is noted by Palmer (1989, 90–91, 92–93 n. 11). It is proposed that the large *ka-ma* lands could have provided an avenue through which to acquire the amount of food required to feed/pay groups of palace workers.

In particular, *ka-ma* lands may have been the source, or one of the sources, of the cereals, figs, and olives noted in the Linear B texts and often supplied as rations or wages to palace workers, whether they were permanent or temporary laborers. The possibility that the third *ka-ma-e-u* on PY Ep 613 is a "deputy-supervisor of figs" is suggestive in this regard. In the PY Ab texts, each woman worker is allotted a monthly ration of about 20 liters of wheat (GRA) and 20 liters of figs (*NI*); on PY An 128, wheat and figs (with *NI* reconstructed on the *recto*) form the rations of men who seem to include specialized swordmakers (line 3); tablet PY An 7 (= Fn 7) lists rations of barley (HORD) and olives to male workers, including wallbuilders and sawyers (see Palmer 1989, 96–98, 110; Killen 2004, 161; for an evaluation of the traditional equation of **120* = GRA "wheat" and **121* = HORD "barley," see Killen 2004, 163–168).

While these texts lack the details required to pinpoint the specific products yielded by *ka-ma* lands, combination farming offers an attractive model for the use of these lands in the scenario envisaged here. As Lin Foxhall (2007, 112–116) notes, there is evidence from the Classical period for mixed farming of arable crops and trees on the same land (although the best land was probably often reserved for cereals) and for different kinds of crop trees on the same plot. Figs, grapes, and olives, the latter taking longer to bring a return, were often planted

together. In terms of maintenance, vines, vegetables, and edible herbs would have required more intense labor or specialized attention than field crops, olives, and orchard trees (Burford 1993, 132–137). Mixed orchards are attested in Homer's *Odyssey* (e.g., Laertes' orchard in *Od.* 24.244–247, 336–344), and Linear B tablet PY Er 880 demonstrates a connection between the fig trees and vines of a wealthy landowner, though not necessarily grown on a single plot in this particular case (see Palmer 1994, 46, 64–65). Wine is another possible end product of *ka-ma* lands: it was consumed at the palace and was used in the perfume industry, though it never appears as a ration or handout for lower-level personnel (Palmer 1994, 119).

The hypothesis that *ka-ma* lands were worked primarily to produce food for workers is based in part on the evidence of An 261 (discussed below). However, given the lack of detail in the texts about the actual products of *ka-ma* lands and given the strong likelihood that mixed farming was practiced in the Bronze Age (Palmer 1994, 103), the possibilities are in fact numerous. One could speculate, for instance, that *ka-ma* lands yielded other products as well, such as legumes, which do not seem to be recorded in the Linear B texts, and flowers and plants used in the Pylian perfume industry, such as fresh roses, sage, and so forth (such items are discussed in Shelmerdine 1985, 17–39 and Palmer 1999, 465, 469–470, 477). It may have been useful for the palace to have access to a fairly stable reserve of land somewhere nearby, dedicated to producing agricultural products required for the running of its industries, both workers' rations/wages and ingredients for those industries. Even if it could obtain many items through taxation from elsewhere, having easy access to fresh items would have been a bonus (cf. Palmer 1999, 482– 483).

Who worked the *ka-ma* lands? Work teams of men (and women) may have been assembled periodically by the *ka-ma-e-we* to work their *ka-ma* plots as required. Who these laborers were and whether they were permanently or temporarily engaged by the *ka-ma-e-we* is unknown. Some activities may have benefited from the use of animals as well, such as oxen for plowing and the grazing of sheep and goats as a means of clearing grass and weeds, not to mention the use of their dung as fertilizer (Foxhall 2007, 82–83). Different tasks during the agricultural cycle would have required different numbers of agricultural laborers (e.g., more people at harvest time). Clearly, the *ka-ma-e-we* would have been in a position to mobilize manpower, or were connected to others who could provide them with the laborers needed, to work their plots.

So, it is proposed that the palace administrators at Pylos had negotiated an arrangement with the *dāmos* whereby a certain amount of *dāmos* land was opened up, or reserved, for a special kind of "working." Their desire to obtain *dāmos* land could point to a lack of cultivable land in the surrounding area, perhaps due in part to a steady growth in population (e.g., Shelmerdine 2001, 113–115), or it could have been motivated by a variety of other factors, such as the location or the soil quality of the *ka-ma* land or even a political strategy to develop closer ties with the *dāmos*. It would seem that these *ka-ma* leaseholdings were open to all members of the community (including religious personnel), but they carried the condition, perhaps imposed by the *dāmos* as a safeguard, that the land be worked, as shown by the *wo-ze* obligation. If this obligation to work *ka-ma* plots was not satisfied, the *dāmos* may have reserved the right to retrieve the land and lease it to someone else. Similar obligations and penalties for noncultivation of land are found in the Law Code of Hammurabi and the Hittite Laws (Ventris and Chadwick 1973, 233, 255) and in the leases preserved from the Classical period (Palmer 1963, 204; Burford 1993, 180–181).

The precise amount and type of return expected to be handed over by the *ka-ma-e-we* to the *dāmos*, as ultimate owner or custodian of *ka-ma* lands, and to the palace, in whose archives the E series as a whole was found, is unknown, but presumably the relevant size/production capacities of the lands (expressed in GRA) would have been taken into account in those calculations by the relevant authorities. Nor is it certain whether the leaseholders dealt separately with each institution regarding the matter of taxation or whether they were directly accountable to the *dāmos*, which in turn was responsible for collecting and handing over to the palace an overall tax expected from the *dāmos*'s landholdings listed in the PY E series. The latter situation seems reasonable, given the corporate nature of the *dāmos* (Lejeune 1972, 142; Deger-Jalkotzy 1983, 90–91; Lupack 2008, 65–67). A tax in the form of agricultural produce or some other contribution was probably involved.

It is pertinent, then, to consider why anyone would desire to lease a *ka-ma* plot under such conditions. The assumption made here is that as long as the expected contributions were received by the *dāmos* and the palace (the latter including the bulk of *ka-ma* produce destined to feed the palace's workforces), the *ka-ma-e-we* would be allowed to use the rest of the land to cultivate whatever they liked or to use the rest of their yield for personal benefit. Such a situation is somewhat akin to that which has been proposed for the "collectors" in the context of sheep rearing and textile production. The "collectors" served the palace but were also capable of amassing a degree of private wealth (Killen 1995, 218; see also Lupack 2008, 86–98, who views the "collectors" at both Knossos and Pylos as local elites who actually owned the flocks). It has been argued that many individuals were able to profit from the economic and managerial tasks allocated to them by the palace (Nakassis 2008, 558–559 on smiths as elites). Of particular interest to the present discussion, Ruth Palmer (1999, 478–480) has suggested that the nine individuals in the MY Ge tablets were large landholders required to provide fresh herbs and spices to the palace at Mycenae for its cooking needs and perfume production. These men may have been allocated land by the palace for this specific purpose and allowed to grow other crops on it as long as they satisfied their obligations, or they may have set aside some of their own land to grow the required condiments (Palmer prefers the latter scenario for the MY Ge series). In the case of the *ka-ma-e-we* at Pylos, perhaps after directing an amount of their produce to the *dāmos*, to the palace, and to the agricultural laborers who worked their *ka-ma* plots, these men could then exchange their surplus for desired items in their community or neighboring ones, tapping into potentially profitable local exchange networks. Working the land for the palace might have brought along such benefits. For some produce (e.g., vegetables and fruit), freshness would be of paramount concern, but other items (e.g., grains, nuts, dried fruits) would be relatively less susceptible to time restraints.

There are numerous reasons why the *dāmos* might have agreed to the *ka-ma* leasing arrangement with the palace, as sketched above. This arrangement may have constituted part of the wider agreement on the basis of which some of the *dāmos*'s land—that which is recorded in the PY E series—was taxed by the palace. While the political power exerted by the centralized palatial bureaucracy may have been a factor in this agreement, the *dāmos* itself stood to gain economically from such agricultural collaboration. For instance, there is textual evidence on PY Vn 20 for the sending of wine by the palace to the nine district centers of the Hither Province (Palmer 1994, 75–78) and the Knossos Ch tablets may indicate that working oxen were loaned out by the palace to *dāmos* communities to assist in the plowing of their lands (Killen 1998, 23; 2008, 172–173 n. 34; Halstead 1999, 321). Unrecorded benefits may have included a commitment from the palace to supply coordinated protection against foreign attack or food in bad years (e.g., Killen 2008, 173–174 n. 37) or to support the community in other ways, all of which would have strengthened the social and political fabric of Mycenaean society. An explicit connection with *ka-ma* lands is absent in these specific instances, but it is possible to envisage the *dāmos* benefiting in similar ways for making some of its land, such as *ka-ma* plots, available to the palace for direct exploitation. The overall sense is one of potential conflict over land resources being averted by the palatial and local *dāmos* administrators through the promotion of mutually beneficial alliances that allowed for the peaceful coexistence of, and cooperation between, older (*dāmos*) and newer (palace) elements of society.

The picture sketched above of the arrangement regarding *ka-ma* lands between *dāmos* and palace could be extended to include a similar arrangement between *dāmos* and sanctuary. One possibility is that, as argued above, the religious personnel listed among the 10 *ka-ma-e-we* of Ep 613 may have been leasing this special kind of *dāmos* land from the *dāmos* and working it for the palace. Alternatively, under a separate agreement between the *dāmos* and the sanctuary of *pa-ki-ja-ne*, they may have been working it for their sanctuary (and its workforces). Admittedly, it might be more difficult in this case to explain why these entries would be included in the palace's records (when the size and expected contributions of *ka-ma* lands under such an arrangement would have been of direct interest only to the *dāmos* and the sanctuary); perhaps it would interest the palace to know the amount of the *dāmos*'s *ka-ma* land that was currently held by sanctuary-related individuals, whose leases the palace could

seek to obtain in the future. Otherwise, if, as suggested above, all the *dāmos*'s land in the E series was taxed as a whole by the palace, regardless of the individual leaseholders, it would make sense, according to standard practice, for all the landholdings involved to be registered.

In any case, peaceful coexistence and cooperation could be tempered by political competition. The first three men on Ep 613 could arguably be viewed as palace-related individuals forming a cluster at the start of the tablet: the first one as a likely *e-qe-ta*, the third as a *te-re-ta*, and the second by association (though note his lack of occupational designation and smallest amount of land of all 10 *ka-ma-e-we*, Eb 862/Ep 613.3). The total amount of *ka-ma* land of the first three *ka-ma-e-we* on Ep 613 is just over 20 GRA (although the amount actually "worked" is smaller), while the total land of the remaining seven *ka-ma-e-we*, at least four of whom seem clearly connected to the religious sphere (i.e., *a-⁖-ke-re-u*, *e-u-ru-wo-ta*, *pe-re-qo-ta* and *ko-tu-ro*$_2$) is between GRA 7–8. Palace and sanctuary, as represented by the variety of *ka-ma-e-we* on Ep 613, may at times have been vying for the use of the *dāmos*'s *ka-ma* land, with varying degrees of success.

Of course, as acknowledged earlier, personal and/or professional allegiances may have been manifold. For instance, *ko-tu-ro*$_2$ was both a religious functionary (*pa-de-we-u*, Ep 613.13) and possibly a member of the formal *dāmos* administration (as a *ko-to-no-o-ko*, Ep 301.13). It is impossible to tell whether his holding of *ka-ma* was directly, if at all, contingent upon his affiliation with the *dāmos* or the sanctuary. A clue may lie in the fact that his fellow *ka-ma-e-u*, *pa-ra-ko*, who was also a *ko-to-no-o-ko* (Ep 301.12), is registered on Ep 613 as such (line 11), but *ko-tu-ro*$_2$ is not. Perhaps *ko-tu-ro*$_2$'s designation on Ep 613 as a *pa-de-we-u* indicates that he held his *ka-ma* plot on behalf of, or at least in connection with, the sanctuary.

The references to *ka-ma* lands and *ka-ma-e-we* at Pylos found on tablets outside the E series are considered next.

PY An 261

Tablet PY An 261 is a difficult text to interpret, but a thorough analysis is provided by Sigrid Deger-Jalkotzy (1998–1999). The text of this record is as follows:

PY An 261 (H 43; S615 H1)

recto

.1]we-ke ke-tu-wo-e
.2 o-two-we-o , ke-ro-si-ja a$_3$-nu-me-no VIR 1[
.3 o-two-we-o , ke-ro-si-ja qo-te-ro VIR[1
.4 o-two-we-o , ke-ro-si-ja a$_2$-e-ta [VIR 1
.5 o-two-we-o , ke-ro-si-ja , o-du-**56*-ro [VIR 1
.6 a-pi-jo-ṭọ , ke-ro-si-ja , ku-ṭẹ-ṛẹ-u VIR [1
.7 a-pi-jo-to , ke-ro-si-ja , o-wo-to VIR 1
.8 a-pi-jo-to , ke-ro-si-ja , a-ra-i-jo VIR 1
.9 a-pi-jo[-to] ke-ro-si-ja , ri-zo VIR 1
.10 ta-we[-si-jo-] ị ọ, ke-ro-si-ja , ẉạ-[ ] VIR 1
.11 ta-we-ṣị[-jo-] jo , ke-ro-si-ja , [ ] VIR 1
.12 ta-we-si-ị ọ-jo , ke-ro-si-ja , [ ]wa-ne-u VIR 1
.13 a-pi-qo[-ta-o] , ke-ro-si-ja , ạ$_3$-ṣọ-ni-jo VIR 1
.14 ạ[-pi-qo-ta-o] ke-ro-si-ja , a[ ]te VIR [1
.15] ke-ro-si-ja , a[ ] VIR 1
.16 ke-ro-]ṣị-ị ạ , [⁖]-ka-[⁖] VIR 1
.17 a-[ke-ro-]-ṣị-ja , o-ṗạ-[ ]*vacat* [VIR 1
.18 *vacat* [ ] *vacat*
.19 *vacat* [ ] *vacat*

verso

.1 ta-we-si-jo-jo , ke-ro-si-ja , te-ẉạ[VIR 1
.2 ta-]ẉẹ-si-jo-jo , ke-ro-si-ja , tu-ru-we-u VIR 1
.3] *angustum*
.4 ta-]ẉẹ-si-jo-ị ọ , ke-ro-si VIR 20
.5 a-pi-qo-ta-o , ke-ro-si-ja VIR 17
.6 a-pi-o-to , ke-ro-si-ja VIR [1]8
.7 o-to-ẉọ[-o ke-]ṛọ-si-ja VIR [1]4
.8 *angustum* [ ] [ ]
.9 ka-ma-e[-we] VIR 1ọ

This tablet seems to bring together two chief concerns of the Mycenaean palatial system: land and labor. Land is represented by the *ka-ma-e-we*, recorded last, who as seen above are specifically connected with land in the PY E series, while labor is provided to the palace by the *ke-ro-si-ja* members. Following Deger-Jalkotzy, *ke-ro-si-ja* are perhaps best understood as kin-based groups whose members are expected to carry out obligatory work assignments for the central palatial administration. Deger-Jalkotzy (1998–1999, 74–81, see esp. 75–78)

in fact regards each *ke-ro-si-ja* /*geronsia*/ as a body of *gerontes*, the senior (distinguished or experienced, but not necessarily old) representatives of a kin group. According to paleographic considerations, the last word in line 1 could be restored as *ke-ke-tu-wo-e*, an active perfect participle, meaning that the task performed had been completed, even if the underlying verb is difficult to decipher (Deger-Jalkotzy 1998–1999, 67–68). Eighteen men are individually recorded by name and identified as belonging to one of four distinct *ke-ro-si-ja* groups (on recto lines 2–17 and continuing on verso lines 1–2): this is largely Hand 43's work. The rest of the verso was copied from text Un 616 by Hand 1 and features the four *ke-ro-si-ja* groups in question (verso lines 4–7). Each *ke-ro-si-ja* seems to have provided three to five men, resulting in 18, a number characteristic of workteams, as seen from texts such as An 1282 (concerned with chariot equipment). In Deger-Jalkotzy's view (1998–1999, 78) the *ka-ma-e-we* registered at the end of the tablet represent another group owing obligatory service to the palace (reflected by the verb *wo-ze* on Ep 613), specifically in return for their plots of land. However, since Del Freo (2009) has shown that the verbs reflecting obligations on Ep 613, including *wo-ze*, could refer to agricultural work carried out on the land itself, it might be worth considering a different explanation for the presence of the *ka-ma-e-we* on An 261.

At least two other scenarios present themselves. First, one might ask whether the *ka-ma-e-we* noted on *verso* line 9, deliberately set off from the rest of the text, were supposed to serve in some supervisory capacity with regard to the labor force(s) drawn from the groups registered above them. Could it be that the 18 men recorded individually on this tablet were the actual workers of a *ka-ma* plot? Did they plow the lands, or plant vegetables, or pick fruit from *ka-ma* lands, under the supervision of a *ka-ma-e-u*? Could this explain the connection on An 261 between labor groups and the *ka-ma-e-we*?

Second, and perhaps more productively, one might consider that cross-references of these *ke-ro-si-ja* members' personal names reveal connections with the smiths of the Jn series, making it likely that these men were bronzeworkers (Carlier 1995, 363; Deger-Jalkotzy 1998–1999, 68–72, 80). The reconstruction of the first word of the heading of An 261 as *ka-ke-*]*we* /*khalkēwes*/ "bronzesmiths" is therefore appealing (Deger-Jalkotzy 1998–1999, 79), and it would line up with other Linear B texts, which tend to record by name skilled craftsmen rather than dependent or lower-level workers, to which category a collective of humble fruit pickers might be relegated. It should be stressed, however, that unlike the bronzesmiths on the Jn tablets who worked in their own areas, the 18 men on An 261 are believed to have carried out their work assignment at the palace center, as suggested by the absence of a toponym and by the fact that some of these men are known from other texts to have been present at the center (Deger-Jalkotzy 1998–1999, 71). As noted above, diverse workers were called from their hometowns to the center from time to time to carry out specialized work (Killen 2006, 77–85). Therefore, the palace might have required extra produce to support such temporary/seasonal workers. The *ka-ma* land may have provided sustenance in the form of vegetables, or fruit, or grain, for these workers. This land may have been set aside by the *dāmos* for the palace, specifically for such purposes. The four *ke-ro-si-ja* groups listed on An 261 *verso* lines 4–7 seem to represent the total available pool of bronzesmiths that the palace could engage for this particular task or at this particular time. It is proposed that the entry citing 10 *ka-ma-e-we* may similarly reflect the total number of *ka-ma-e-we* available to supply the required sustenance for such men. This explanation attempts to account for the apparent link on An 261 between workers for the palace, identified in this instance as groups associated with bronzeworking, and the *ka-ma-e-we*, who elsewhere (Ep 613) are clearly responsible for working the *dāmos*' *ka-ma* land.

It is tempting to consider whether the 10 *ka-ma-e-we* mentioned as a group on An 261 are the same 10 *ka-ma-e-we* listed individually on Ep 613 (Lindgren 1973, II, 71). And, if the purpose of *ka-ma* land was in fact intensive cultivation to produce (or supplement) the food intake of palace workers, one could further speculate on the nature of the obligations attached to these lands: could the *wo-ze* obligation, for instance, have been imposed by the palace itself, to be enforced by the *dāmos*, in order to ensure the ongoing productivity of such land?

PY Un 718

Tablet PY Un 718 seems to highlight an inherent link between *ka-ma* lands and groups of people. The text of this document is as follows:

PY Un 718 (S312 H24)

.1 sa-ra-pe-da , po-se-da-o-ni , do-so-mo
.2 o-wi-de-ta-i , do-so-mo , to-so , e-ke-ra$_2$-wo
.3 do-se , GRA 4 VIN 3 BOS^m 1
.4 tu-ro$_2$, *TURO*$_2$ 10 ko-wo , **153* 1
.5 me-ri-to , V 3
.6 *vacat*
.7 o-da-a$_2$, da-mo , GRA 2 VIN 2
.8 OVIS^m 2 *TURO*$_2$ 5 a-re-ro , *AREPA* V 2 **153* 1
.9 to-so-de , ra-wa-ke-ta , do-se ,
.10 OVIS^m 2 me-re-u-ro , FAR T 6
.a -ma
.11 VIN S 2 o-da-a$_2$, wo-ro-ki-jo-ne-jo , ka-
.12 GRA T 6 VIN S 1 *TURO*$_2$ 5 me-ri[
.13 *vacat* [me-]ṛị-ṭọ V 1

At a place called *sa-ra-pe-da* (line 1), whose precise location is unknown, contributions of food and drink are to be offered to the god Poseidon. The internal ordering of this text (Lejeune 1973, 71–72) features two pairs of contributors: (1) *e-ke-ra$_2$-wo* and the *dāmos* and (2) the *ra-wa-ke-ta* and the *wo-ro-ki-jo-ne-jo ka-ma*. The pattern underlying each pair is that of "individual and group," and it is thought that the members of each pair are bound by a close relationship (Nikoloudis 2008, 589).

It could be argued, on the basis of the verb *do-se* "will give," which is stated or implied for each of the four parties (lines 3, 7, 9, 11), that four animate subjects are involved. Thus, both *da-mo* and *ka-ma*, originally (inanimate) land terms, could be seen as also capable of denoting a group of people closely associated with these respective land types. This is clear from other contexts for the *dāmos* (Palmer 1963, 188; Palaima 2004, 231), as in its dispute over the status of the priestess Eritha's landholding (PY Ep 704.5–6), where it clearly constitutes an entity with a voice of its own. As already noted, the *dāmos* is generally viewed as either the local group of land administrators or the local village community as a whole. Its root, **deh$_2$-* "divide, distribute," reflects the group's role in the distribution of land. Given that the root of the word *ka-ma* has to do with "work, labor" (noted earlier), it would not be surprising if an animate *ka-ma* referred to workers of *ka-ma* lands. The *ka-ma* of Un 718 may itself denote a group of agricultural laborers belonging to a larger group of "outsiders" that the palace sought to integrate into the wider Mycenaean community through the office of the high-ranking *ra-wa-ke-ta* (for details, see Nikoloudis 2008). If so, this might qualify as another instance in which a *ka-ma* holding, itself *dāmos* land, was subject to palatial oversight.

The *ka-ma* on Un 718.11 is qualified as being *wo-ro-ki-jo-ne-jo*. According to Alfred Heubeck (1966, 270), the term *wo-ro-ki-jo-ne-jo* could be interpreted as an adjective based on a toponym meaning "Place of the Breaks," in which case the *ka-ma* concerned (both the land and the group) may have been associated with a particular locality. In John Killen's opinion (1983a, 83–84), the term *wo-ro-ki-jo-ne-jo* is a possessive adjective based on a collector's personal name, **wo-ro-ki-jo* /*Wroikiōn*/. Such adjectives were regularly used to designate male and female groups of workers who were dependent on, or at least closely associated with, individuals of higher status than themselves (e.g., *ku-ru-me-ne-jo* [masc. pl.] KN Fh 5502 < *ku-ru-me-no* KN Sc 236, *we-we-si-je-ja* [fem. pl.] PY Aa 762 < *we-we-si-jo* PY Jn 431, KN Le 654, discussed in Killen 1983a, 81–83). Killen's interpretation, in particular, highlights the possibility that a workgroup of some kind also lies behind the *wo-ro-ki-jo-ne-jo ka-ma*.

This might also help to explain the otherwise awkward genitive *ne-qe-wo* on the preliminary text Eb 495 (the relevant section is not preserved on the corresponding final text Ep 613.1): if not simply due to a scribal oversight, the genitive case points to "*Neqeu*'s *ka-ma*" as the party "obligated" to work the land. This would imply that *ka-ma* could indeed refer to an animate entity as well, most likely the group working a *ka-ma* landholding.

PY An 724

Tablet PY An 724, a naval record, also features *ka-ma* land:

PY An 724 (S657 H 1, Cii)

recto

.1 ro-o-wa , e-re-ta , a-pe-o-te ,
.2 me-nu-wa , a-pe-e-ke , a-re-sa-ni-e
.3 o-pi-ke-ri-jo-de , ki-ti-ta , o-pe-ro-ta ,
.4 e-re-e VIR 1 VIR
.5 e-ke-ra$_2$-wo-ne , a-pe-e-ke , a$_2$-ri-e ,
.6 o-pe-ro-te , e-re-e VIR 5
.7 ra-wa-ke-ta , a-pe-e-ḳẹ[ ]ẹ VIR ḷ[
.8 ta-ti-qo-we-u , o-[ ]-qe-[•]-ị̣o , VIR 1
.9 a-ke-re-wa , ki-e-u , o-pe-[ ]ẹ , a-ri-ja-to VIR 1
.10 ki-ti-ṭạ VIR 1 o-ro-ti-jo , di-qo , a-[ ]*vestigia*
.11 o-pe-ṛọ , [ ] , e-ko-si-qe , e-qe-ta , ka-ma[ ] *vestigia*
.12 e-to-ni-jo , e-nwa-ri-jo VIR 1 [ ]*vestigia*
.13 wo-qe-we , ḍị-qo-te , ru-ki-ja , a-ko-wo VIR[
.14 ri-jo , o-no , e-qo-te VIR ḷ0[

verso

Sketch, probably of a boat.

Del Freo (2002–2003) offers a compelling analysis of this important but poorly preserved tablet. Four locations in the Hither Province are noted: *ro-o-wa* (line 1), *a-ke-re-wa* (line 9), *wo-qe-we* (line 13), and *ri-jo* (line 14). The first section (lines 1–8) records rowers who are absent (*a-pe-o-te* /*apehontes*/ ἀπεόντες) from *ro-o-wa*. Del Freo argues that these rowers are absent not because they have been excused from rowing service by their patrons (i.e., *me-nu-wa*, *e-ke-ra$_2$-wo-ne*, the *ra-wa-ke-ta* and *ta-ti-qo-we-u*) but, on the contrary, because these settlers (*ki-ti-ta*) have been excused ("let go") from their other activities (which are not specified) in order to perform their obligatory naval service as rowers (Del Freo 2002–2003, 163–164). Support for this proposal is provided by the striking correspondence between the total number of eight rowers absent from *ro-o-wa* from An 724 and the eight rowers recorded as originating from *ro-o-wa*, presently on their way to Pleuron, on PY An 1 (Del Freo 2002–2003, 165; for the idea that An 1 represents a ship's crew recruited from the total available manpower listed on An 610, see Killen 1983b, 76–79 and note the useful parallel provided by these texts for the team of bronzeworkers and the total available men believed to be registered on An 261).

The *ka-ma* land appears in the second section of this tablet (lines 9–12), which concerns the location of *a-ke-re-wa*. By restoring *a-*[*ko-wo*] at the end of line 10 (Del Freo 2002–2003, 154), lines 10–12 may be translated as follows: ". . . *Olonthios* (*hapax*), being *di-qo* (meaning unknown), without sons or without apprentices/boys, is obligated [to row or perhaps even to serve in some other capacity] and the *e-qe-ta* (pl.) have/hold the *ka-ma* . . . as *e-to-ni-jo* for [the god] *Enuwalios*" (see Del Freo 2002–2003, 154–158, with references). Without anyone to send in his place, Olonthios must go to perform his duty himself, and his *ka-ma* landholding has therefore been transferred (perhaps temporarily) to a group of *hequetai*.

If Olonthios is taken to be a man closely connected to the palace, as the other named individuals on the text seem to be, it could be argued that *ka-ma* land is regarded by the palace as too important to be left unattended and unworked during Olonthios's absence (and also thereby potentially risking its repossession and redistribution by the *dāmos*). Thus, its palatial agents, the *hequetai*, have been entrusted with its maintenance to ensure its continued productivity. Whether or not the *hequetai* mentioned on An 724 are the three *hequetai* associated with *a-ke-re-wa* on the *o-ka* tablet An 656 (lines 14, 16, 19–20) is unclear (Deger-Jalkotzy 1983, 99).

The term *e-to-ni-jo* is applied to three landholdings at Pylos: (1) the priestess Eritha's *o-na-to* (Eb 297.1/Ep 704.5), (2) the priest Amphimēdēs' *o-na-to* (Eb 473.1/Ep 539.14, and (3) the *ka-ma* held by the group of *hequetai* above (An 724.11). This special status is believed to have exempted the land so designated from all, or some, of the tax normally levied on it (e.g., Ruijgh 1967, 109–110, who proposes that the underlying term, ἐτώνιον, is derived from a compound *ἔτωνος "having real benefit/profit," comprised of ἐτός "true" and ὄνος "benefit"; Deger-Jalkotzy 1983, 100; Lupack 2008, 66 n. 199). The issue of tax revenue is perhaps why the *dāmos* disputes Eritha's claim that her land is of *e-to-ni-jo* type. If *e-to-ni-jo* status was granted directly by

the palatial administration (for this idea, see Lupack 2008, 75–76), An 724.11–12 could reflect a situation in which the palace has freed the *hequetai* from an otherwise expected levy to the palace or the *dāmos*, or both (again, the details of the taxation system are far from clear) in return for their assistance. For the *hequetai*, taking on the supervision of Olonthios's *ka-ma* plot probably meant sacrificing a good deal of time, attention, and resources otherwise spent on their own ventures. Perhaps the palace attempted to make it more attractive for these men to take on the responsibility by exempting the land from (some) tax and by dividing the task between a number of *hequetai*, thereby further reducing the burden inherent in working it. If correctly understood, An 724 shows that the palace was keen to hold on to *ka-ma* land whenever possible.

It is worth noting that the priest Amphimēdēs, in the second example of *e-to-ni-jo* above, was probably also a *hequetās* (see Lindgren 1973, I, 29, II, 47 for his identification with the *e-qe-ta* on Ed 317). Could it be that, in all three examples of *e-to-ni-jo* land, the palace was interfering in the land allocations of the *dāmos* by granting exemptions and currying favor with influential individuals, including sanctuary personnel, whose share in the expected collective contribution of the *dāmos* to the palace would then fall on other members of the community (cf. Deger-Jalkotzy 1983, 100; Lupack 2008, 76)? Such a situation would expose the *dāmos*'s relationship with the palace to be, at times, problematic, thereby highlighting again the complicated interplay between *dāmos*, palace, and religious spheres.

Concluding Remarks

The information contained in the E series, An 261, Un 718, and An 724 from Pylos suggests that *ka-ma* landholdings were a special kind of *dāmos* land. In particular, their size and accompanying obligations mark them as unusual. Their potential yields, which would have exceeded those of regular-sized plots, and the specific link between workers for the palace and *ka-ma-e-we* on PY An 261 raise the possibility that *ka-ma* lands were reserved for intensive cultivation primarily geared toward feeding large groups of workers. It is tentatively proposed that a special arrangement was worked out between the *dāmos* and the palace, whereby a portion of *dāmos* land, known as *ka-ma*, was set aside for this purpose, due to its desirable location or soil quality or some other factor. Indeed, tablets Un 718 and An 724 indicate that officials closely connected to the palace (the *ra-wa-ke-ta* and *e-qe-ta*) could be associated with the supervision of the *dāmos*'s *ka-ma* lands.

The ability to use surplus produce from these lands for one's personal benefit would help to explain why such *dāmos* land would have been in demand at the level of the individual, relatively wealthy, leaseholder, as in the case of the larger landholdings of the first and third *ka-ma-e-we* recorded on Ep 613. It is tempting, but premature, to view such individuals as agricultural entrepreneurs, working the land for the palace and making a personal profit when possible. At an institutional level, the distinction between the palatial and religious associations of some *ka-ma-e-we* on Ep 613 might point to a degree of competition between the palace and sanctuary over the leasing of *ka-ma* plots; however, it would be dangerous to place too much emphasis on this point, given the possible overlap between spheres of interest. Finally, one wonders whether the absence of the *pa-ro da-mo* formula in the *ka-ma* entries of Ep 613.1–13 might stem from the ambiguous character of *ka-ma* plots: that is, according to the hypothesis presented in this paper, *ka-ma* lands technically belonged to the *dāmos* but were worked primarily for the palace (and possibly also the sanctuary). Thus, the clear differentiation between landowner (*dāmos*) and leaseholder would have been blurred in the case of *ka-ma* lands, where the palace, at least, was intertwined as a major beneficiary. Perhaps the omission of the *pa-ro da-mo* formula hints at the heavy involvement of one or more

such parties, distinct from the *dāmos*, in the working of these plots.

Firm conclusions are not possible at present due to the nature of the available evidence. The above exploration into *ka-ma* plots nevertheless suggests an underlying dynamic and beneficial, even if potentially problematic, collaboration regarding land between *dāmos*, palace, and sanctuary at Late Bronze Age Pylos. For both the institutions and the people associated with them, one suspects that working the *dāmos*'s *ka-ma* lands was as much an exercise in agricultural and economic management as one in socially expedient communal arrangements and profitable individual political alliances.

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CHAPTER

18

"Re-excavating" the Palace of Nestor: The Hora Apotheke Reorganization Project

Sharon R. Stocker and Jack L. Davis

From 1991 to 1995, the Pylos Regional Archaeological Project (PRAP), of which Cynthia Shelmerdine was a codirector and founding member, investigated surface archaeological remains on the Englianos ridge and in the area around it (Davis et al. 1996; Davis, Bennet, and Shelmerdine 1999; Davis, ed., 2008). In a season devoted exclusively to study for publication of finds from fieldwork, Cynthia suggested that we look in the storerooms of the Museum of Hora for ceramic finds similar to those of the Middle Helladic (MH) period from PRAP that Sharon Stocker was preparing for publication with Yiannos Lolos. Cynthia had previously worked in the storerooms of the museum while preparing her monograph on the perfumed oil industry at Pylos (Shelmerdine 1985).

It was in the course of Stocker's first visit that a seed was planted that grew into the Hora Apotheke Reorganization Project (HARP), the initial goal of which was simply to repack finds from Carl Blegen's excavations that had been stored in the basement of the museum since the 1960s.* With that end in mind, she organized a group

*We thank the many who have furthered research under the umbrella of HARP. They are too numerous to mention here individually, but we are no less grateful to them. We should, however, acknowledge the importance of the friendly collaboration that we have enjoyed with Xeni Arapogianni and Anna Karapanagiotou for many years, as well as the assistance we have received in Hora and at the Palace of Nestor from guards employed by the Ministry of Culture, and from Litsa Malapani and Dimosthenes Kosmopoulos of the Kalamata Ephoreia. We also thank James Muhly and Steven Tracy, successive directors of the American School of Classical Studies at Athens. Finally, our research has only been possible because of steady financial assistance from the Semple Fund of the Department of Classics of the University of Cincinnati and the Institute for Aegean Prehistory.

of volunteers, many of whom had participated in PRAP as graduate students. Over the following three years, they dedicated their summers to transferring Blegen's finds from old cardboard boxes into new wooden containers and to renewing tags and labels.

While performing these tasks, it became obvious that large numbers of artifacts were unpublished or only partly published. The animal bones are a case in point. In 1998, the job of inventorying the barrels of animal bones in the storeroom fell to Paul Halstead who, with Jack Davis, spent a week assessing the size of the assemblage and its potential for further study; only a brief preliminary analysis had previously been published by Günter Nobis after a visit to Pylos in 1989 (Nobis 1993).

Some 300 kg of animal bone were examined; only about half (by weight) had been studied by Nobis. In most instances, the bone had not suffered severe postdepositional degradation. Retrieval had doubtless been incomplete and variable, but the remaining range of animals and body parts suggested that there had been an attempt at wholesale recovery in many instances. It was estimated that more than 11,000 identifiable fragments of the more informative body parts (e.g., limb bones and mandibles) were retained.

A second surprise the following year led to a major expansion in the work of HARP. Concerns about the conditions in which fragments of painted plaster were stored led to a visit to Hora by Hariclia Brecoulaki, then a fellow of the Wiener Laboratory. Brecoulaki was recommended to us by James Muhly, then director of the American School of Classical Studies at Athens (ASCSA). A long-term project to clean and register all plaster fragments began in 2000 and led ultimately to the documentation of ca. 17,000 pieces—most of which were previously unpublished. This work led in turn to the discovery of entirely new iconographical representations and to reconsiderations of reconstructions published in *The Palace of Nestor* II by Mabel Lang (1969). Reconstructions of well-known fragments have been prepared by Rosemary Robertson; in many instances they differ substantially from those in Piet de Jong's watercolors.

In the remainder of this paper, we describe the fruits of research sponsored by HARP in greater detail, in the hope that such a summary will provide readers with both a useful introduction to our work and a conspectus of its results. Annual reports have been published in the *JHS* supplement *Archaeological Reports* (vols. 44–56) continuously from 1997 through 2012.

Faunal Remains

After the preliminary inventory of animal bones mentioned above, Halstead and Valasia Isaakidou spent seven seasons (2000–2007) systematically examining particular groups of bones. At the same time, Stocker and Davis were determining the nature and date of bone assemblages by studying excavation notebooks and groups of excavated context pottery, a project that was completed in the summer of 2008.

It is difficult now to determine the precise criteria that led Blegen's team members to retain some animal bones but to discard others. On the whole, it seems that they kept deposits that they believed would be important, for example, where bones were found in large numbers or where they were unusual in some way. Overall, nearly 200 separate groups of bones from several dozen different locations were preserved in the Hora Museum. A complete survey of excavation notebooks has, moreover, shown that, in general, very few animal bones lay on floors of the rooms of the palace at the time of its final destruction. Most were, in fact, discovered in discard contexts outside the palace walls, the majority in deposits of pre–Late Helladic (LH) IIIB date. Nobis did not realize this fact since he did not study the excavation notebooks, and he thus seems wrongly to have assumed that his results were relevant to reconstructions of the Late Mycenaean palatial economy.

Several preliminary reports have thus far been published, all of which are principally concerned with groups of cattle bones found on the floor of the Annex (7) to the Archives Room of the palace, and in several pits northwest of the palace (Isaakidou et al. 2002; Halstead 2003; Halstead and Isaakidou 2004; Stocker and Davis 2004). The cattle bones

that remained on the floor of Room 7 at the time of the palace's destruction were burned, likely as a sacrifice in practices similar to those known from Homeric and later times (Stocker and Davis 2004). A pile of miniature kylikes nearby is also indicative of ritual discard.

Other faunal remains include several bags of shell that Deborah Ruscillo examined in 2006. The majority consists of murex that seems to have been crushed for the production of pigment. Most shells were found in the area of the Belvedere in Early Mycenaean levels.

Wall Paintings

The most labor-intensive aspect of HARP has involved the study of thousands of fragments of painted plaster already mentioned. Custom-designed drawers, shelves, and storage containers were built for the fragments and installed in the storerooms of the Museum of Hora. All of the pieces have been cleaned, inventoried, and photographed—most for the first time. Photography was undertaken by Jennifer and Arthur Stephens.

The preceding project offered the opportunity to study techniques employed in the execution of the wall paintings and the composition of pigments. Dozens of samples have now been analyzed in laboratories in Athens and Italy, while portable X-ray fluorescence/X-ray diffraction (XRF/XRD) has been used to examine in situ the chemical composition of paints in hundreds of instances (Brecoulaki, forthcoming). Results were unexpected and were not foreshadowed by the work of Blegen's own team.

One of the most significant conclusions to be drawn from scientific analyses is that the paintings were not rendered as frescoes but employed tempera paints and organic binders (Bonaduce et al. 2007; Brecoulaki et al. 2008, 384; 2012). Equally significant has been the discovery that some, presumably high-value, pigments were used only in certain parts of the palatial complex and only at particular times in its history (Brecoulaki 2005). These include copper-based paints (Brecoulaki and Perdikatsis 2006) and others that incorporated purple extract drawn from murex.

Fragments of two important wall paintings with iconographical representations previously unknown in the repertoire of Mycenaean wall painting have been discovered. The first of these consists of two joining pieces from an image of a female archer that were excavated in 1939 (see Fig. 18.1).

The restored fragment, now fully published, had been removed from the walls of the palace prior to its final destruction and was found

Figure 18.1. Archer fresco found outside room 32 of the Main Building. Drawing R. Robertson.

outside Room 32 (Brecoulaki et al. 2008). Artistic methods and constituents of the plaster and paint were studied by XRD, particle-induced X-ray emission (PIXE) alpha analysis, XRF, scanning electron microscopy–energy dispersive X-ray spectrography (SEM-EDS), pyrolysis/gas chromatography–mass spectrometry (Py/GC-MS), and gas chromatography–mass spectrometry (GC-MS). These revealed, for example, that Egyptian blue pigment was extensively employed and that egg was used as a binder for the pigments.

The biggest surprise thus far has, however, been the discovery of a squadron of ships with oars sailing through a purple sea with fish—a composition that once adorned Hall 64 in the Southwest Building (Davis, Stocker, and Brecoulaki, forthcoming). Firing experiments, conducted by Eleni Kottoula at the National Center for Scientific Research "Demokritos," have determined what the effects of burning are on modern samples of pigments with the same composition as those used at Pylos, thus aiding in reconstructions of this, as yet unpublished, wall painting.

Examination of wall paintings from other parts of the palace is necessitating revision of conclusions drawn by Lang (1969). The nautilus frieze (4 F nws) has been extensively expanded by Beatrice Amadei. Freya Evenson's reexamination of the so-called hunting scene from Room 27 suggests that it is, in fact, a scene of warfare. New joins to fragment 19 C 6 make it clear that it does not show a bull being sacrificed. New fragments also have been joined to the Vestibule Procession from Room 5 by Jennifer Wilson (2009), and green fronds and flowers rendered in a naturalistic style have been recognized for the first time in the Throne Room. There was a small human head beneath the famous composition of "Two Men at Table" (44a H 6). Modifications to the "Lyre-Player and Bird" (43 H 6) and Battle Scene I (22 H 64) are also necessary.

Prepalatial Deposits

A comprehensive survey of pre-Mycenaean strata in the palace is nearing completion, and detailed studies of principal deposits are being systematically published. The earliest stratigraphically discrete levels can be dated to the first phases of the MH period. Small quantities of pottery of Early Helladic (EH) II are mixed into deposits of later date. Common are EH II ring bases that were pierced after firing, presumably to convert them into spindle whorls. The most remarkable Early Bronze Age (Early Bronze II) artifact is, however, a fragment of a Cycladic stone pyxis lid with a network of relief spirals (see Fig. 18.2). Although stored with material from the Palace of Nestor, it is clearly a stray find from the nearby site of Ali Chodza (Stocker and Davis 2011).

Our first published study of Prepalatial pottery fully documented Lord William Taylour's excavations at a small, badly eroded site near the palace—Deriziotis Aloni (Stocker 2003, 2004). The two buildings he unearthed are among the earliest apsidal structures known in Messenia, and the ceramics and small finds are indicative of a stage of prehistory poorly represented in the southwestern Peloponnese. Deriziotis Aloni was one of several similar sites that coalesced in the MH period to form a larger community that ultimately gave rise to the Palace of Nestor.

Most recently, the earliest MH deposits near the palace and under its floors have been documented

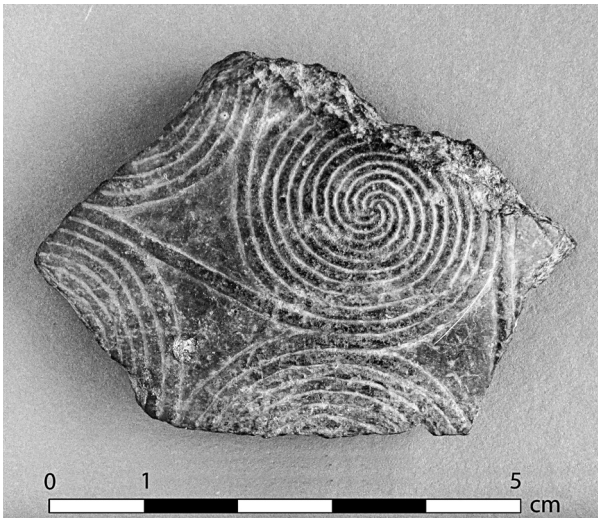

Figure 18.2. Cycladic pyxis from Ali Chodza. Photo J. Davis.

in detail. A conspectus of the stratigraphy and finds from one excavation has already been published in the proceedings of the "Mesohelladica" conference, sponsored in 2006 by the École française d'Athènes and the ASCSA—the Petropoulos trenches, excavated in 1959 by Marion Rawson northwest of the citadel of the Palace of Nestor (Davis and Stocker 2010a).

The largest trench (Trench I) was nearly 25 m in length. The northern part contained very fragmentary remains of three superimposed structures, the lowest, of the first stage of the MH, followed by two others that also date early in the MH period. The MH levels contain a fragmentary Minoan cup of the Old Palace period. In the Archaic or Classical period, a pit had been dug into the prehistoric levels.

Skeletal Biology and the Cemeteries of Pylos

In 1957, J. Lawrence Angel briefly examined human skeletal remains found by Blegen's team in tombs in the Pylos area. His focus was on determining the age and sex of the more complete individuals. These results were briefly summarized in *The Palace of Nestor at Pylos* III (Blegen et al. 1973) and were incorporated into Angel and Sara Bisel's broader study of Mycenaean health and nutrition (Bisel and Angel 1985). In the course of repacking human bones in the Museum of Hora, we came to understand that Angel's results were based on the study of only ca. 40% of the excavated assemblages. At the same time, we realized that the documentation of artifacts and stratigraphy within graves was incomplete.

In 2000, it was, therefore, decided that a completely new study of the cemeteries excavated by Blegen's team was appropriate. Lynne Schepartz and Sari Miller-Antonio, both physical anthropologists, agreed to examine the bones. Ultimately, their research plan was expanded when material thought lost by Blegen was serendipitously (re) discovered in the National Museum in Athens, thanks to Lena Papazoglou and Sevi Triantaphyllou. Joanne Murphy has organized a program of research that will more completely illustrate, describe, and analyze grave goods (e.g., Polikreti et al. 2011).

Several major results of the study of skeletal biology are relevant for prehistoric Greece as a whole (Schepartz, Miller-Antonio, and Murphy 2009). Among these is the fact that young adults of both sexes are most frequent, for the most part those under 35 years old, while infants, children, and subadults are few. Individuals from the so-called Grave Circle seem to have been healthier than those buried in chamber tombs. Similarly, females who were buried in the chamber tombs suffered from more carious infections, losses of teeth, and porotic hyperstosis.

Murphy argues elsewhere in this volume (Ch. 16) that a detailed consideration of the history of the use of tombs suggests that, although they may have served as theaters for social competition in the Early Mycenaean period, this is unlikely to have been the case in LH IIIB. The interests of the palace authorities were then focused on other arenas: namely, on the elaboration of the palace itself, feasting, and the celebration of its associated cults.

Finds from the Palace in Its Final Phase

Ceramics from Blegen's excavations have been examined under our auspices as components of Ph.D. dissertations. Palace Style pottery has been studied by Maria Antoniou (2009) and LH IIIA pottery by Eleni Kontouri (2002). Julie Hruby has conducted a broader study of pottery from the so-called Pantries of the palace (Rooms 18–22). In her dissertation, Hruby applied a life-cycle or object biographical approach to the study of an assemblage of nearly 6,700 vessels from the Pantries

(Hruby 2006; see also Hruby 2007, 2008). Reexamination of the stratigraphy of the rooms has allowed the redating of a small shrine in Room 18 to a period after the destruction of the palace. The system by which the vessels in the Pantries were stored was reconstructed and, with support of evidence in Linear B texts, an emic Mycenaean taxonomy of ceramics was proposed (further discussed in Hruby 2010). Hruby argued that the pottery stored in these rooms was intended for use at a palatially sponsored feast or feasts. Furthermore, she proposed that the quantities of food and drink allocated suggest that many of these feasts must have been broadly inclusive (Hruby 2011). Inequalities do, however, appear to have been displayed through differential access to service and through qualitative differences in foods.

Suzanne Hofstra prepared a detailed catalog of small finds from the palace in preparation for writing her own dissertation (Hofstra 2000). Many had not been published in final excavation reports. Her study, therefore, provided the first comprehensive view of these and also a new means for assessing the importance of the upper story of the Main Building and its relationship to ground floor areas. Distinct deposits of ivory and bronze could, for example, be determined to have fallen from the upper floor. Hofstra argued that the upper floor held large quantities of imported items with high status associations. The Northeastern Building, in her view, was used for commodity storage, while also serving as a repair and work facility that addressed elite concerns and the immediate needs of the palace complex. Ivory finds are now being studied by Iphigenia Tournavitou.

Finally, the stratigraphic context of all samples of wood retained by Blegen's team has been analyzed by Jeffrey Kramer as part of his postdoctoral research at the University of Cincinnati. These samples were subsequently examined by Peter Kuniholm, but none were found to be suitable for dendrochronological research. Nearly all are from *Pinus brutia* or *Pinus halepensis*.

Postpalatial History of Englianos

The history of settlement on the Englianos ridge after the destruction of the palace is also being clarified through reexamination of finds from Blegen's excavation. Several studies have attempted to define more clearly the process according to which, and the speed with which, the walls of the palace fell. One recent consideration of the finds, in conjunction with a thorough scrutiny of the evidence for the extent and function of upper floor rooms, has supported the notion that the collapse of the palace was gradual (LaFayette 2011). Architectural debris from the second floor appears to have been distributed vertically throughout deposits that accumulated in ground floor rooms, suggesting that upper stories remained standing in certain places for some time after the catastrophic fire that brought the palatial economy to an end. At the same time, there is reason to think that some parts of the palace were not so devastated by fire as believed by the excavators and remained visible in the landscape well into the historical periods.

Another project has involved the systematic reexamination of post–Bronze Age pottery (Davis and Lynch, forthcoming). The ceramic remains do not reflect continuous occupation. By the Archaic period, evidence suggests less frequent use of the ruins, perhaps by occasional, even seasonal, occupants, rather than full-time squatters. Closed shapes are more common in these periods than in the "Dark Age," and there are far fewer drinking vessels. Nothing in the forms themselves or their decoration (mainly black-glaze) suggests that they represent anything but ordinary, domestic fine ware. Classical and Hellenistic fragments occur infrequently and, for the most part, are found in areas of the palace with "Dark Age" pottery. The scant quantity of the ceramics, as well as their average to poor quality, speaks against any ritual activity at the site or the establishment of a hero cult in the ruins of the palace.

The most recent period of the past represented by architecture is the Middle Byzantine period. In 1958 and 1959, in the area of the Northeast Gateway in the Early Mycenaean fortifications, a deposit of pottery, glass, and tile was found associated

with a floor crudely paved with stones and fragments of broken tiles laid flat. A minimum of ca. 100 ceramic vessels, 25 glass vessels, and pieces from an estimated 100 roof tiles were scattered in the vicinity (see Fig. 18.3). A single structure probably stood here, perhaps a rural chapel—a type of monument not well-attested archaeologically. A preliminary presentation of the finds was given at the 2010 Archaeological Institute of America meetings in the session "First Out: Late Levels of Early Sites," organized by Kostis Kourelis and Sharon Gerstel (see Davis and Stocker 2010b; now published as Davis and Stocker 2013).

Figure 18.3. Byzantine glass bowl from area of Northeast Gateway. Reconstruction R. Robertson.

Prospects for the Future

It will, we hope, be clear from the preceding summary that research conducted under the auspices of HARP during the past decade has been both energetic and productive. The significance of new information extracted from the remains excavated by Blegen's team should demonstrate the value of examining anew material from old archaeological projects. Not only can problems now be addressed with new tools unavailable to the original excavators, but the old finds can also be interrogated in light of questions that were never posed, or that did not seem relevant, at the time of excavation.

The research supported under the umbrella of HARP is aimed at the full documentation of every category of evidence in order to ensure that reconstructions of the past are more reliable, while complete documentation of pottery and other classes of artifacts will make it easier for others to use Pylos as a "type site." More specifically, however, it is worth emphasizing just how much the reexamination of finds from Blegen and Rawson's excavations has already made a difference in the way we view the operations of the final Mycenaean palace that was built in the 13th century B.C. and, more generally, the history of occupation on the acropolis and elsewhere on the Englianos ridge, both before and after the destruction of that palace. We do this with reference to several significant examples, selected from the many that are worthy of mention.

As a result of the exhaustive study of unpublished fragments of wall paintings, entire iconographical programs in certain parts of the palace can now be constructed as fully as will ever be possible. Lang's masterful *The Palace of Nestor at Pylos* II (1969) focused on particular iconographical compositions and treated them more like framed easel paintings than as potentially meaningful elements embedded in social and architectural spaces.

Aspects of the afterlife of the Palace of Nestor are much clearer. There remains some controversy about the precise date when, in Argive terms, the palace was destroyed. Nonetheless, a thorough reexamination of post–Bronze Age remains retained by Blegen and Rawson makes it certain that they provided an accurate and objective, if sketchy, picture of historical occupation in *The Palace of Nestor at Pylos* I (Blegen and Rawson 1966). The ruins of the palace were not later recognized as the home of an Homeric hero. There was no *Ruinenkult* as imagined by Schachermayer, and the *Nachleben* of the Palace of Nestor was thus quite different from that of Mycenae, Tiryns, or Thebes.

The documentation of Mycenaean rituals that employed burned animal sacrifices at Pylos has been subsequently confirmed by evidence from Mycenae and Hagios Konstantinos on Methana. Insights into Mycenaean beliefs and mentalities include a first approximation of emic views of classificatory systems and a more sophisticated understanding of the ways in which the cuisine served at feasts was used to reinforce existing social hierarchies. Both seem to mark real advances in the archaeology of cognitive processes, as well as in Greek prehistory.

Since so much new information has been gained through the program of HARP, it should also be obvious that it is of the utmost importance that artifacts from old excavations be maintained in good condition and their contexts preserved so that they can later be fruitfully reexamined. Blegen and Rawson, understanding this fact, left their discoveries well labeled and well tended. But as we discovered, there are ongoing maintenance issues involved in curating finds from a large-scale project such as the Palace of Nestor excavation. Among those best qualified to shoulder that responsibility are scholars intimately familiar with a collection and engaged with it because of their personal research interests.

Those were the attractions that encouraged us to organize and support HARP. And, in time, we hope to pass the baton to a new generation of archaeologists who will, as we have, find much more worth studying in the Museum of Hora.

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WA-NA-KA-TE-RA

Writing and Administration

CHAPTER

19

The Birth of Administration and Writing in Minoan Crete: Some Thoughts on Hieroglyphics and Linear A

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In this paper, I attempt to explain the origin of administration and writing in Crete, but especially I would like to honor a scholar whose studies have exerted a strong influence on Mycenology. I devoted several years of study to the fiscal system of the Mycenaean period, and I found Cynthia Shelmerdine to be not only an expert reference on the subject but also a rare human being and a sensitive person.

Before turning to the topic of the birth of writing in Crete, I briefly touch upon the birth of administration. At least four centuries separate early elementary administrative practices from the appearance of real writing. It is a well-known fact that the only sealing (*cretula*) from Myrtos (Warren 1973, 372) constitutes indisputable evidence that the *cretulae* system (attested and known in Crete in the Protopalatial period) was already in use around 2500 B.C. This early date is not surprising, because Near Eastern evidence shows that such a system was first attested during the sixth millennium B.C. In the 1950s, Enrica Fiandra (1968) already saw that the *cretulae* system was the same as the system used in the Near East (and likely imported from there), and from this early stage of research she recognized the importance of sealings and especially the impressions of objects that were being sealed.

In the great *cretulae* archives from Phaistos and Monastiraki in Crete, door pegs and especially wicker baskets, pithoi, and various containers were sealed by clay sealings, which were then removed and filed in every withdrawal. If arranged in chronological order and classified by typology of the seal or by commodity, the removed *cretulae* kept a record of both the commodities carried away and of the person(s) who carried them away. The clay was pressed onto a pithos, likely on its edge, handle, and lid, in order to make a fraudulent withdrawal impossible. If the *cretula* dried and hardened before

the next withdrawal, it inevitably broke when it was removed and a part of the *cretula* was preserved as proof of the withdrawal made. Sometimes seal impressions are still evident on the back of the sealing, from which we can assume that at times the next withdrawal was made when the clay was still soft and the sealing, or a part of it, was reused.

Although the use of *cretulae* is familiar to us in the evidence from the Near Eastern archives, Louis Godart (1990, 145–146) put forward the hypothesis that these objects served a different function:

> Après quelque temps, lorsqu'une personne se présente auprès du préposé au magasin pour prélever d'autres rations alimentaires, ce dernier descelle le couvercle du vase ou du panier et fait parvenir le scellé représentant l'opération précédemment effectuée dans la salle d'archives, après quoi il prie son nouvel interlocuteur de façonner un nouveau scellé, de l'apposer sur le vase et d'y imprimer au moyen de son sceau, un nombre d'empreintes correspondant au nombre de rations alimentaires qu'il entend à son tour retirer . . . et . . . pour savoir ce que chaque individu a retiré exactement, il suffit de dénombrer les empreintes que chacun a imprimées sur les scellés déposés dans les salles d'archives du palais.
>
> After some time, when someone shows up before the official of the storage room to withdraw some rations, the official unseals the lid of the vase or basket and sends to the archive room the sealing representing the previous operation; then he asks the seal owner to shape a new clay sealing, to affix it to the vase, and to impress it using his seal with the number of impressions corresponding to the number of rations that he intends to withdraw . . . and . . . in order to know exactly what each individual has withdrawn, it is necessary to count the impressions that each person made on the sealings placed in the archives room of the palace.

The above hypothesis is a weak one. When the dry sealing was removed, it inevitably broke and fragment(s) were lost; as a result, seal impression(s) were also lost. It is clear that many seal impressions are absent. Moreover, the seal impressions on *cretulae*, which were removed while the clay was still soft and reused, do not appear in the accounts. Other evidence against Godart's hypothesis is that the seal was stamped on the clay in a disorderly manner and that sometimes the impressions overlapped. However, if the seal impressions carried a numeric value, as is the case on Minoan roundels, it is quite logical that they were neatly stamped. But, in cases where the impressions overlap, the act of stamping served to cover the sealing surface as much as possible in order to avoid fraudulent withdrawal. Other arguments against Godart's hypothesis are the facts that wicker baskets sealed by *cretulae* did not necessarily contain commodities, and *cretulae* are found on door pegs. These observations show that the aim of such a system was not simply to record commodities.

The Myrtos sealing, as well as the coeval sealings of Lerna in mainland Greece, shows, at the very least, that the birth of administration precedes the birth of writing. In the Near East, *cretulae* appeared several millennia before writing. Eventually, the *cretulae* system coexisted with writing, but both systems kept their disparate features. This shows that *cretulae* and writing were independent systems.

Let us now consider the birth of writing in Crete. The first attestations of writing on the island are in the Cretan hieroglyphic script. The term "hieroglyphic" was coined by Arthur Evans (1909, 240), who was struck by certain similarities between the signs of this Cretan script and Egyptian hieroglyphic. In reality, no connection exists between the two scripts. Cretan hieroglyphic appears to be a simple syllabic script, which is quite unlike the complicated Egyptian scripts.

The first inscriptions in the Cretan Hieroglyphic date to the Middle Minoan (MM) I period, around 2100 B.C., and are incised on a small number of seals (Olivier and Godart 1996, 252, no. 252; 262; no. 202; 290, no. 315) found in the cemetery at Archanes in Central Crete (Sakellarakis 1965; Grumach and Sakellarakis 1966; Sakellarakis and Sapouna-Sakellaraki 1997, 327–330). These examples are three to four centuries earlier in date than other attestations of the same script (1800 B.C. according to the "high" chronology, 1700 B.C. according to the "low" chronology), which are found in the palatial centers of Knossos, Malia, and Petras. (Sakellarakis, however, believes that the Archanes documents, which he dug in adverse weather conditions, are more recent than he previously thought [Weingarten 2007, 137 n. 51].) Today, after the publication of a corpus of the Cretan hieroglyphic documents by J.-P. Olivier and Godart (1996), we can no longer speak of a separate "Archanes script," so named by the seal expert Paul Yule some 30 years

ago (Yule 1980, 170). The repetitive sequence of the same five signs (042-019-019-095-052) carved on these seals from Archanes (referred to as the "Archanes formula") is found in a more or less identical form on certain seals and seal impressions recovered at Knossos (Olivier and Godart 1996, 190, no. 134; 212, no. 179; 226, no. 203), Gouves (Olivier and Godart 1996, 274, no. 292), Moni Odigitria (Olivier and Godart 1996, 289, no. 313), and even on the island of Samothrace in the northern Aegean (Olivier and Godart 1996, 192, nos. 135–137). As a matter of fact, this word is attested in a very similar form in Linear A, particularly on stone libation tables, and on a small clay figurine from Poros Herakleiou (POR Zg 1).

Although the majority of researchers agree that these most ancient attestations of writing in Crete belong to the Cretan hieroglyphic writing system, Godart recently suggested that they are not written in Cretan hieroglyphic, but in Linear A (Godart 1999). Yet the fact that this repetitive word is carved on seals by itself is a good argument in favor of sustaining the Cretan hieroglyphic hypothesis, and not the Linear A, especially since in a total of 8,000 signs in Linear A on some 1,500 documents, only six Linear A signs were ever incised on seals. As discussed below, only one Linear A inscription is certainly inscribed on a seal.

Godart's suggestion that the Archanes script is written in Linear A is based on the similarity of the famous sequence of five signs on these ancient seals (A-SA-SA-RA-NE, according to the reading of the homomorph signs in Linear B), with a sequence of five signs (A-SA-SA-RA-ME) attested on libation tables inscribed in Linear A, as well as on the figurine from Poros, mentioned previously. However, the fact that a word in the Cretan hieroglyphic is almost exactly the same as a word in Linear A is neither exceptionally surprising nor tremendously important. As a matter of fact, Linear A and Linear B share five or six common words. Assuming the word A-SA-SA-RA-ME is, for instance, a divine name, it would not be strange to find the name of a Minoan divinity in the two extant Minoan scripts. For these reasons, Godart's hypothesis is unfounded, making it highly unlikely that these old inscriptions were written in Linear A rather than in Cretan hieroglyphic.

The reason for the chronological gap between hieroglyphic documents of MM IA and those of MM IIB are to be sought in the fact that the earlier documents of unbaked clay are less likely to be preserved in the archaeological record, while more resistant materials such as hard stones are less affected by the detrimental effects of time. It is certain that during the three to four centuries between the Archanes documents and later examples of the script, Cretan hieroglyphic continued to be used. The main hoards of documents that were found in Knossos, Malia, and Petras were preserved as a result of the fire destructions at these sites, which baked the clay documents and allowed them to survive until the modern era. Therefore, during the first three centuries of the so-called first palaces, hieroglyphic documents and, as we will see, Linear A were regularly produced and systematically disposed of after their use. Perhaps during the first three centuries in the life of the palaces, no fire threatened the spaces where archival documents were kept.

In any case, the sherd inscribed with three signs in Cretan hieroglyphic, found recently in the Bâtiment Pi at the Palace of Malia (Pomadère 2009, 636) and dated to MM IB/IIA, definitively eliminates the gap existing between the Archanes documents (2100 B.C.) and the hieroglyphic archives of Knossos and Malia (1700 B.C.).

The syllabary of the Cretan hieroglyphic script comprises 96 syllabic signs on some 350 documents. The repeated attestations of these signs reach the number of only 1,500, which, in today's terms, is no more than a page's text. As a point of comparison, we have 1,500 Linear A documents with a total of 8,000 signs and 6,000 Linear B documents with a total of 70,000 signs.

In the Protopalatial period, the Cretan hieroglyphic script represents the principal writing system of the Minoans, whereas Linear A, although present, appears much more limited in terms of quantity. Cretan hieroglyphic seems to disappear near the end of MM III, around 1600 B.C. Linear A, at that point, remained the only script used by the Minoans, except at Petras, which, in addition to the MM Cretan hieroglyphic documents, has produced a hieroglyphic medallion and a number of pottery sherds with the ideogram for textiles (H 41). These, according to the excavator Metaxia Tsipopoulou, date to Late Minoan (LM) IB (Tsipopoulou and Hallager 1996, 39–42). We should keep in mind that at the same period in at least three sites (Phaistos, Hagia Triada, and Zakros)

impressions were made from seals bearing carved hieroglyphic inscriptions. It is generally agreed, however, that seals can be used for more than a generation after their manufacture.

Cretan hieroglyphic is attested on various types of documents. Around half of the documents are seals or seal impressions, a characteristic that marks a significant difference from Linear A. The remaining documents are primarily archival and include four-sided bars, tablets, medallions, crescents, some 15 pots with incised inscriptions, one vessel with a painted inscription, and a unique inscription carved on a stone libation table.

Thirty-four Cretan sites have produced documents in the Cretan hieroglyphic, while this script occurs at only two sites outside Crete, namely, Samothrace in the northern Aegean sea and Kythera. The great majority of these locations are the findspots of one or two documents at the most. The principal masses of documents come from the Hieroglyphic Deposit in the palace of Knossos, from Quartier Mu and the palace of Malia, and from the smaller-scale palace of Petras. Except for a handful of documents from the south of Crete, the Cretan hieroglyphic documents are found mostly in the central, northern, and eastern parts of Crete. As we will see later, this specific localization cannot be accidental.

Obviously, 350 documents are nowhere near sufficient to permit a future decipherment of the Cretan hieroglyphic. To add to the problem of the scarcity of documents, Cretan hieroglyphic texts have very few signs. The longest text, on a four-sided bar from Knossos (Olivier and Godart 1996, 100–101, no. 49), contains 47 signs, but most of the documents present us with only two or three signs.

On a positive note, although these texts are not deciphered, they are partially understood, thanks to the fact that the basic ideograms, namely, the signs for grain, wine, figs, and olives, are the same as those in Linear A (and in Linear B, which has been deciphered). What is needed for an eventual decipherment are texts of noneconomic character and of a certain length, which would provide us with more meaningful details on the structure of the language. Documents of this type are missing from the Cretan hieroglyphic, unlike texts in Linear A.

The Cretan hieroglyphic is, without a doubt, a Cretan innovation, even if the idea of its invention came most probably from the Near East or Egypt, places with which the Minoans had commercial contacts already in the Early Minoan (EM) period.

We move on now to Linear A. It is essential to stress, first of all, that contrary to Arthur Evans's belief, this script does not derive from the Cretan hieroglyphic, since the two writing systems share only about 20 signs in common. It is interesting to compare it with Linear B, which has 64 signs in common with Linear A and undoubtedly derives from Linear A. In the process of adaptation of the Minoan syllabary to the Greek language, some 30 signs were suppressed, and some 20 new were invented. Linear A, like the Cretan hieroglyphic, is a logosyllabic script with a respectable number of logograms that refer to animals, objects, and products.

As mentioned previously, Linear A is another original script, born in Crete, and it was probably influenced by the Near Eastern and/or Egyptian cultures. Unlike more complicated syllabaries used in the Levant, which incorporate an enormous number of signs, the Cretan syllabary consists of "open" syllables, made of a consonant plus a vowel, and it does not use ideograms to express actions, such as "to eat," "to speak," or "to walk." It is therefore a much more flexible invention than the Near Eastern syllabaries.

The Linear A syllabary contains 97 signs, and as mentioned above, 64 of them were adopted with some minor formal differences into Linear B. The exciting thing is that a dozen Linear A signs are found also in the Cypriot scripts and share the same phonetic values in Linear B and in the Cypriot syllabary.

The oldest attestation of Linear A is a small tablet fragment found in the Southwest House at Knossos (KN 49), which dates to MM IIA (around 1800 B.C.). However, apart from this one find, the oldest Linear A documents are those that come from the ruins of the First Palace of Phaistos, the destruction of which is dated approximately to MM II (around 1700 B.C.). The small tablet fragment from Knossos is extremely important, because it shows that Linear A was used in Crete from the beginning of the palatial era until the Mycenaean invasion (around 1450 B.C.). There is actually a sporadic presence of Linear A even after that date; a painted inscription that appears on a clay figurine from Poros Herakleiou, dated around 1350 B.C., attests to a religious and private use of Linear A. It is this famous figurine,

mentioned previously, that bears the word with five signs that Linear A shares in common with the Cretan hieroglyphic.

The problem of the invention of writing (and of the two scripts, to be more exact) in Crete in the Minoan period has attracted the attention of many scholars but remains, to this day, unsolved. What could be the reason for using two scripts simultaneously for the same purpose, that is, the registration of texts of an economic nature?

Godart (1979, 32–33) suggested that Cretan hieroglyphic was created in the beginning as an "official" script to be used only on seals, while Linear A was created principally for the recording of administrative texts. He suggests that with time the Cretan hieroglyphic scribes wanted to record administrative texts as well, and they borrowed the basic ideograms of Linear A in order to do just that. But, as correctly pointed out by Olivier (forthcoming), no script was ever invented with the sole purpose of taking down the name or the official title of a single individual, as appears to have been the case with inscriptions on hieroglyphic seals. Moreover, no script was ever intended to be used by a restricted number of people for a purpose as mundane as this.

It has been often said that the Cretan hieroglyphic and Linear A could record two different languages. Certainly, even given the presence of two languages, one script could accommodate them both. To give a simple example from Crete later in antiquity, it is enough to mention the "Eteocretan" cities Dreros and Praisos, where, although two different languages were spoken, the Greek alphabetic script was used to record both.

In my opinion, a plausible solution could be that two different populations (not necessarily speaking two different languages) coexisted within Crete, in independent kingdoms. Two different scripts could have been invented toward the end of the EM period in two different areas of the island. In the MM period, the different populations could have amalgamated, at the same time retaining their cultural identity and continuing to use both their scripts. At this point, and keeping in mind the distribution of Cretan hieroglyphic documents on the map of Crete (see Fig. 19.1), we can suggest that the population that used hieroglyphic originally had its homeland in one part of the island. Thus, in the same palace at Malia, people using two different scripts could work in the same rooms without problems of comprehension, as in the case of the chancellery in the Middle Ages in Italy, where scribes in Greek and Latin worked together.

It is obvious that two different scripts, created and developed in two different cultural environments, might have had variable uses and divergent logic. For instance, the population that used the hieroglyphic, besides handling economic affairs through the use of clay tablets, could have used the Cretan hieroglyphic also on seals, which in turn were used for stamping clay documents and objects. Meanwhile, the population that used Linear A was using seals without inscriptions but with pictorial motifs, which equally allowed for the identification of the owner.

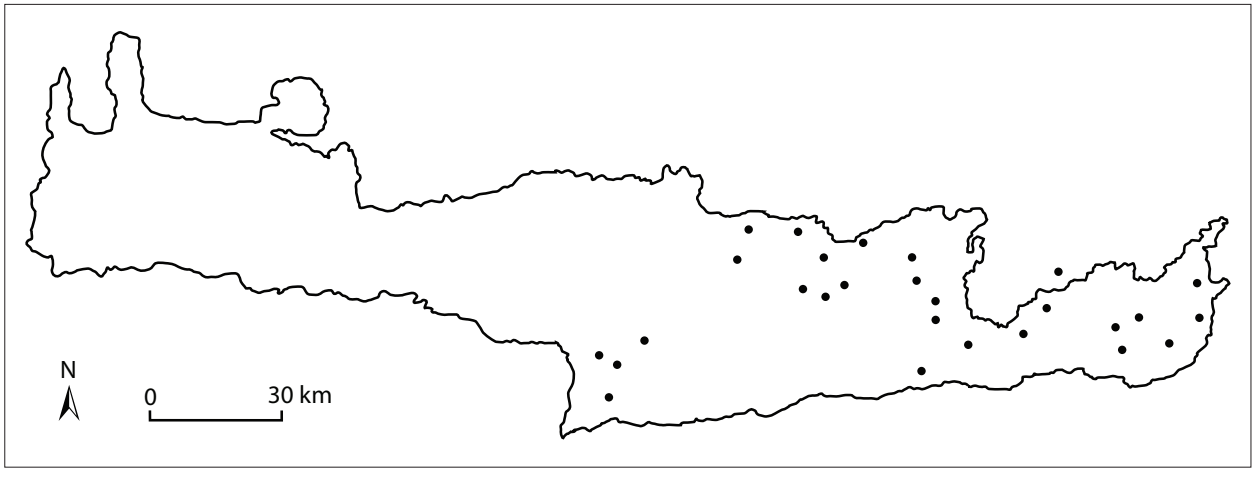

Figure 19.1. Distribution of Cretan hieroglyphic documents. After Olivier and Godart 1996, 20.

When I talk about two ethnic groups, I refer neither to entirely different populations nor to differences between material cultures. I refer to two ethnic groups that lived together for a very long time and, for this reason, did not develop differences in material culture. In the first millennium B.C. in Crete, the same archaeological picture emerges in the cities where Eteocretans lived together with Greeks.

I am convinced that differences between the use of writing and the use of seals correspond to cultural differences between the users of Cretan hieroglyphic and the users of Linear A. Such differences were present in Minoan society as markers of distinction between the two cultural identities, both of which were well integrated in a peaceful community. When the demand for two scripts diminished, the more practical system won and the Cretan hieroglyphic became obsolete.

Linear A is the script of the LM period, attested all over Crete and in a number of Aegean islands, from Kythera to Melos, from Keos to Thera, and in the eastern Aegean at Miletus on the Anatolian coast. One should consider with caution the Near Eastern finds at Tel Haror in the Negev desert and at Tel Lachish, as well as those from Tiryns in the Peloponnese. Finally, one should certainly reject the pseudo-inscriptions from Troy published by Schliemann in his time (1875, 23, 50) and taken up subsequently by Paul Faure (1991) and Godart (1994, 714–721).

As for the two "inscriptions" on the Trojan spindle whorl (TRO Zg 1 and 2), it must be emphasized that the interpretation of any incisions as a possible inscription based on a drawing executed more than a century ago, without the possibility of checking the original finds, is problematic. Ornamental signs like the ones that appear on the Trojan spindle whorls are commonly used on objects from the Neolithic period onward all over the Balkans (Merlini 2004, fig. XIX) and in Anatolia (Zurbach 2003).

With regard to vase no. 2444 in the Berlin Museum, it is quite unlikely that anyone copied a Linear A inscription and inserted a cross after every sign, as has been suggested (Godart 1994, 715 n. 15). On this vase, a simple cross, a circle with an inner cross, and a trident have been incised. All these signs appear in the most ancient scripts, as well as the ceramic ornamental repertories of several civilizations.

In comparison to Linear B, Linear A is attested on a greater variety of media. In addition to the clay tablets, apparently the main type of Linear A documents, we have inscriptions on libation tables, which have provided us with texts that are extremely interesting for our knowledge of the Minoan language but unfortunately not extensive enough for a decipherment. Moreover, we have clay pots (either incised or painted), bronze objects, gold objects, stone weights, clay documents such as roundels, hanging nodules, and *noduli* that are also stamped by seals, and even mural inscriptions.

As for Linear A inscriptions on seals, four documents should be mentioned: ARM Zg 1, KN Zg 55, CR (?) Zg 3, and CR (?) Zg 4. Among these, only CR (?) Zg 4 is definitely a Linear A document (Fig. 19.2). In my opinion, the seal from the Mycenaean necropolis of Armeni (ARM Zg 1) can probably be omitted from this list, based on the fact that the pattern of two triangles with an inner point is simply ornamental. Moreover, CR (?) Zg 3, which J.-P. Olivier included (but dubiously) among the Linear A inscriptions (Olivier 1999, 422–426), in my opinion should be excluded. The carved strokes are not very similar to Linear A signs, and their quality is very far from the masterpieces of the Minoan glyptic. Seal KN Zg 55 also remains, in my opinion, doubtful.

The seal CR (?) Zg 4 (Kenna 1963, 4, fig. 2:d–f; 1964, 9, pls. 1:26, 2:12, 3:21; Kenna, ed., 1972, 162–163 [*CMS* XII, no. 96]) is of uncertain provenance. In the absence of archaeological context, Victor Kenna (1963, 5) dated the document to MM IIIB/LM IA on the basis of stylistic criteria. The seal (1.4 cm diam., 1 cm th.) is a reel-shaped seal of black and green serpentine, entirely pierced by a hole. Both sides are divided into two registers, and three signs are incised on each side. The signs are about 0.25 cm in height. During a visit to the Metropolitan Museum of Art in New York in May, 2010, I noticed that the first sign on side a and the second sign on side b were not correctly identified (Kenna, ed., 1972, 162–163 [*CMS* XII, no. 96]). On the cast of side a, it is possible to see that three signs, 28–01–01 (I-DA-DA, using Linear B phonetic values), are carved in the top register, and in the lower one there is a floral pattern (papyrus flower). On side b

a

d

f

b

e

g

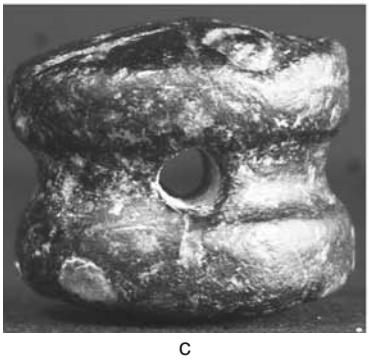
c

Figure 19.2. Seal with Linear A inscription Cr (?) Zg 4: (a–c) photographs; (d, e) casts of faces a and b; (f, g) drawings of inscriptions. Not to scale. Photos and drawings M. Perna.

a facade pattern is craved in the top register, and the signs 08–02–04 (A-RO-TE) appear in the lower one. The signs 28–01–01 (I-DA-DA) show that the inscription should be read on the cast. These signs can be ascribed to the word 28–01 (I-DA in ZA 21b, ZA 24a, IO Za 2b, PK Za 17 and 18) and its derivatives on clay tablets, libation tables, and gold artifacts (28–01–08 [I-DA-A] in KO Za 1, 28–01–56–28–31–53 [I-DA-*56-I-SA-RI] in PH 6, 28–01–73 [I-DA-MI] in SY Za 1, and 28–01–80–04 [I-DA-MA-TE] in AR Zf 1 and 2). This new reading provides a new form of the word I-DA, which probably refers to the mythical mountain. The signs 08–02–04 [A-RO-TE] on side b are, instead, a *hapax*. The most interesting paleographic parallels for the signs 08, 04, and 28 are on stone libation tables from Juktas Sanctuary.

The seal CR (?) Zg 4 is very interesting because it is an exceptional document in the corpus of Linear A script. But the most intriguing Minoan

documents by far are the so-called flat-based nodules. The casts demonstrate that these clay nodules, impressed with one or more seals, were shaped around some sort of folded sheet, in all probability parchment. Such documents with sealings were obviously placed in the archives to be consulted if need be and could contain laws, balances of previous years, and all the information lacking in the Linear A tablets. Therefore, the clay documents in Linear A might last for an administrative cycle and then be transcribed onto different materials. Erik Hallager (1996, 138) has noted that parchment sheets of about 21 by 15 cm, folded and then enclosed in clay, can reach the maximum dimensions of 0.8 by 1.2 cm, corresponding to the average dimensions of a flat-based nodule. Olga Krzyszkowska, however, believes that these pieces of parchment unfolded had approximate dimensions of 6 by 6 cm (2005, 156).

This kind of document shows that the preserved occurrences of Linear A represent only a small part of the written documentation of the time, giving us a false impression of what the Minoans put down in writing. They may have recorded on parchment the topics that we normally find on clay in the Near Eastern archives, including balances, landholding documentation, laws, and so forth. When observing the Linear A tablets from Hagia Triada, it is apparent that the quantity of information contained in these documents is very modest. In fact, 90% of the tablets contain simple registrations of incoming or outgoing deliveries of grain, oil, wine, olives, and figs in connection with anthroponyms and toponyms. One, two, or a maximum of three words make up the header of a tablet, information that is indispensable for understanding whether the text concerns incoming or outgoing movements of products and probably conveys some more supplementary information. Considering that flat-based nodules are among the most numerous archival documents (708 altogether), one should not underestimate the possibility that a parchment document, painted on one or two sides, might contain a text of considerable length compared to the small Linear A tablets. Therefore, the quantity of information contained in a document of this kind was certainly not negligible.

Flat-based nodules do not occur among Linear B documents, partly due to the fact that the Linear B tablets are much more complete and detailed than Linear A tablets. In the Linear B tablets, many sectors of the economy are treated, including textile production, animal rearing, the distribution of bronze, the registration of taxes and land ownership, records of religious offerings, contracts concerning the property of slaves, and other subjects. Economic and social information of this type was recorded as part of a superior and much more thorough form of administrative record keeping compared to what is represented on Linear A tablets.

However, economic information of this type may well have been at least partially recorded in Linear A on parchment or another perishable material, such as the palm leaf. If this ever happened, the information cannot be recovered from the flat-based nodules, on the back of which only the imprint of parchment is attested. It is evident that Minoan documents painted on parchment (or other perishable materials) could be written in hieroglyphic, too.

The birth, development, and coexistence of the Minoan scripts remain highly complicated problems that can only be understood fully with the aid of future finds.

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CHAPTER

20

Signs of Writing? Red Lustrous Wheelmade Vases and Ashkelon Amphorae

Nicolle Hirschfeld

One important question about Bronze Age potmarks is whether they are signs of writing.* An affirmative answer has significant implications for our understanding of how widely a script was used within and between communities. This essay discusses two instances for which the claim of writing on ceramics has been made: Red Lustrous Wheelmade (RLWM) pottery and the "inscriptions" found at Ashkelon. In both cases, the question is whether the marks incised into these vases are to be identified as signs of the Cypro-Minoan script. The answer is important in the first instance for our understanding of the diversity and specialization of the Cypriot ceramic industry and in the second for our understanding of the use and influence of Cypriot writing outside the island.

*This article was submitted in 2010. In the interval between submission and publication there have appeared several publications significant to this study, though they do not alter its fundamental conclusions. References to these later publications and associated minor corrections have been incorporated into the text; the discussion of the finds from Ugarit merits a more whole-scale revision (in style more so than substance), but that is impossible to achieve at this point in the publication process.

Methodology

Cypro-Minoan refers to the native script(s) of Late Bronze Age Cyprus. Not many traces have survived, but the extant bits demonstrate that it circulated throughout the island on a variety of objects in diverse contexts throughout the entire span of the Late Bronze Age. We do not know which language(s) the writing expresses; no bilingual has been found, and there are not enough texts preserved to support decipherment. The paucity of texts, the variety of media on which they occur, and the different tools used to write make it difficult to identify with certainty the individual elements of the signary or signaries, for there is debate whether "Cypro-Minoan" texts all use the same script and/or express the same language (most recently, see Olivier 2013, 10–11; for a contrasting view, see Ferrara 2013).

A further wrinkle in the identification and classification of Cypro-Minoan is the brevity of many inscriptions. Longer texts include sense units of one or two signs, and this makes it feasible to propose that single marks inscribed into, for example, an *obelos*, an anchor, or a vase could be signs of Cypro-Minoan writing. In fact, this has generally been the default assumption since the earliest discoveries of Bronze Age vases with single marks inscribed on their handles were made by the British Museum expedition at the turn of the 20th century (Murray, Smith, and Walters 1900, 9, 27; followed by, e.g., Casson 1937, 72–109; Masson 1957). John Daniel (1941) first called for separate treatments of marks/signs according to the media on which they appear and their manner of inscription (*ductus*), but his careful methodology was largely ignored until I took up the study of the marks on pottery found in Late Bronze Age Cyprus, a project undertaken partially under the mentorship of Cynthia Shelmerdine. I remain grateful for her continued encouragement and critique.

After an initial survey of the range of marks and vases, I decided—for logistical purposes—to concentrate on an easily defined subset: Mycenaean vases with incised marks. It soon became apparent that this group shared several other features: chronological and geographical distribution, the shapes of the vases, and characteristics of the marks themselves (they were cut into the fabric after firing; they are conspicuous in their size and placement on the vase). The marks from that group that can be specifically and certainly identified with any script are Cypro-Minoan. The geographical distribution of these marked vases and the similarities to local Cypriot marking practices supported the Cypriot identification, and I concluded (Hirschfeld 1992, 1993) that people familiar with Cypriot writing made the marks incised into Mycenaean pottery (though not every mark is necessarily a sign of writing). My methodology for identifying marks with a script system was holistic, reliant not on the identification of selected individual marks with signs of writing but considering the entire corpus of marks and also their contexts, micro and macro.

The simple forms of most Bronze Age potmarks and the fact that they usually appear as singletons on a vase mean that many valences can be proposed for each mark when examined in isolation. The first step toward making meaningful statements about any single potmark is to locate it within the larger context of a marking system. Marking systems become visible when all aspects of marked vases are considered: not only the forms of the marks, but also their *ductus*, the locations of the marks on the vases, the types of vases, along with the chronological, geographical, and functional distribution of the marked vases. Whereas so many meanings and identifications can be proposed for a simple mark in isolation as to make the proposals useless, the greater patterns visible in a system both set parameters and suggest meaningful directions of inquiry. Only when an individual mark can be placed within a larger context of a marking system can values be assigned with any confidence.

Red Lustrous Wheelmade Pottery

In general, RLWM pottery is like no other ceramic type found on Late Bronze Age Cyprus. Cypriot pottery is typically handmade. Even very small sherds of RLWM are instantly recognizable by their wheelmade, fine, pinkish, hard-fired fabric and burnished surfaces. The shapes, too, are largely unique to the ware. The distinctiveness of these vases has engendered much debate about whether RLWM was made in Cyprus or Anatolia, the two regions in which this pottery is most abundant. Until recently, the strongest evidence for Cypriot manufacture has been the quantities and diversity of shapes found on the island, much more than elsewhere in the eastern Mediterranean. Now new discoveries in Anatolia are altering our perception of this distribution pattern. But at the same time, petrographic and instrumental neutron activation analyses conducted in the last five years point to a single production center for all RLWM, tentatively identified with the northern coast of Cyprus (Knappett et al. 2005). The investigators, however, stress that the identification of place still requires extensive prospection and examination of clay sources and ceramic samples.

Cyprus as the place of production for RLWM pottery is also the hypothesis put forward in the seminal study of this ware by Kathryn Eriksson (1993). In part, Eriksson made her claim on the basis of the potmarks characteristic of this ware, which she identified as Cypro-Minoan: ". . . some of the signs should be regarded as examples of the Cypro-Minoan script. Their presence on these vessels clearly illustrates Cypriot involvement and manufacture" (Eriksson 1993, 147). But this identification is unjustified. Yes, it is true that some of the marks can be identified with Cypro-Minoan signs. However, these are all simple forms (Eriksson 1993, 146, figs. 41, 42) that also occur in many other marking and writing systems. In fact, the corpus of marks on RLWM pottery includes very few that are complex enough to make a meaningful identification with a sign of any writing system. Furthermore, many of the RLWM marks include circular elements, something outside the repertoire of the Cypro-Minoan signary in any medium. Also, in general terms these marks differ from the usual local Cypriot practice (during the Late Bronze Age) of large, boldly cut, prominently placed, mostly postfiring marks, usually on large storage containers. All RLWM marks share the characteristics of being drawn into the wet clay before firing, they are small, and they are inconspicuously placed under the base or at the base of the handle. They are found almost exclusively on spindle bottles, a shape otherwise unknown in the Cypriot ceramic repertoire. In other words, there is no valid reason for identifying RLWM marks with either Cypro-Minoan writing or typical Cypriot marking systems.

This does not preclude the possibility that RLWM vases were made on Cyprus. There are several possible explanations, not exclusive from one another, for the unusual (in Cypriot terms) features of this marking system:

1. Technical: the RLWM marks are small because it is easy to draw very short strokes into wet clay, whereas cutting into hard-fired clay with stone or metal implements necessarily results in the longer strokes characteristic of the postfiring marks on other Cypriot pottery.
2. Different purpose: technical reasons may explain why the prefiring marks on RLWM ware are all small, but they do not explain their unobtrusive placement. The marks on these vases were not intended to be immediately visible. This in itself suggests that they had a different function than the conspicuous postfiring potmarks typical of Cypriot pottery. Since the RLWM marks were made while the clay was still rather wet, they are most likely associated with some aspect of the production process, for example, to designate kiln batches. It is also possible that there was a postproduction

purpose for the marks. This would require a corollary hypothesis of closely connected manufacturing and distribution processes, or of a connection between manufacture and use of the vases. Such sophisticated systems did exist in the Late Bronze Age Mediterranean. Two examples from the Mycenaean world are the coarse ware stirrup jars with Linear B inscriptions (whose circulation was restricted to the Aegean, whereas those without Linear B inscriptions have been found also in the Levant and Egypt) and Mycenaean pictorial vessels, some of which were designed specifically for the export market (Åkerström 1987, 118–119). A Cypriot counterpart might be the Base Ring juglets, apparently made specifically to contain opium (Merrillees 1962).

3. Specialized marking system: the ware comes in relatively few shapes, several of them unique and apparently serving specialized purposes. The tall slender spindle bottles with their small bases and even smaller mouths must have been used primarily for carrying liquids. Long tubular vessels with a hand holding a cup attached to one end might be particularly associated with temple use. An idiosyncratic marking system could have been developed in connection with the specialized manufacture of this specialized ware.
4. Not made on Cyprus: the marks are unlike the other potmarking systems used on Late Bronze Age Cyprus because the vases were not made on the island.

In summary, the marks drawn into the wet clay of RLWM spindle bottles have no demonstrable association with Cypro-Minoan writing or marking practices, and they cannot be cited as decisive evidence in the debate about whether this highly distinctive pottery was manufactured on Cyprus. However, it is also true they do not preclude Cypriot manufacture.

Cypro-Minoan beyond the Island

The potmarks recently found in Late Bronze and Early Iron Age levels at Ashkelon are similarly important for our understanding of how widely (or not) Cypro-Minoan was used. But before evaluating Frank Cross and Lawrence Stager's (2006) identification of the Ashkelon potmarks as Cypro-Minoan, it is instructive to look at the potmarks found at the one site outside Cyprus with strong evidence for the local use and perhaps adaptation of Cypro-Minoan, namely Ras Shamra-Ugarit. (See now Ferrara 2012, 132–145, and the companion volume, Ferrara, forthcoming; see also Ferrara 2013, 57–58, and Olivier 2013, 15, for discussion and bibliography published subsequent to the submission of this chapter.)

Cypro-Minoan here appears in a larger context of close connections between Ugarit and Cyprus, connections that were much deeper than simply an exchange of commodities. Common dining and burial customs, shared status objects, and common divinities are indicative of a transmarine elite with mutual political and social/cultural ties (Yon 1999). Members of this elite sent letters to one another (Malbran-Labat 1999). Archives in the houses of Rap'anu and Ourtenou, high-ranking and wealthy counselors to the king of Ugarit, preserve seven letters sent from or referring to Alashiya (now widely accepted to be part or all of Cyprus, though see Merrillees 2011 for important dissent), all in Akkadian. This seems to have been the language of official correspondence, and in one letter Kushmeshusha, ruler of Alashiya, asks that a scribe be sent from Ugarit, presumably to assist in the composition or translation of foreign correspondence. Written communication was not restricted to Akkadian cuneiform. Four tablets and two labels with Cypro-Minoan inscriptions found at Ras Shamra are indicative of alternate methods of communication (see Matoïan 2012, 154–155, fig. 34, for another possible Cypro-Minoan inscription). The fact that Cypro-Minoan cannot yet be read makes it impossible to ascertain the meaning of the messages and/or the identity of their intended recipients. Nevertheless, even absent a decipherment, some important observations can be made.

First, Cypro-Minoan inscriptions are not confined to a specific area of the site. Two of the tablets were found at separate locations in the Quartier

Résidentiel, the other two were found in the building variously referred to as the Palais Sud/Petit Palais/résidence de Yabninou on the western edge of the citadel, and the two labels come from the Maison d'Ourtenou, located in the Sud Centre region of the citadel (Yon 1999, 117). Finally, a silver bowl with a Cypro-Minoan inscription was found between the temples of Baal and Dagon on the Acropolis, at the Maison du Grand Prêtre (Caubet and Yon 2001). The inscription on the bowl does not fall quite in the same category as those on the tablets and labels, for it is not certain that this inscription was intended to be "read" at Ras Shamra. But it is further evidence that Cypro-Minoan had a wide circulation within the citadel, on a variety of media.

Second, there may be indications of a local adaptation of the Cypro-Minoan script. The arguments for this are extremely tentative, based on formal features such as the layout of the tablets, direction of writing, vocabulary, idiosyncratic signs, and visual observations about the quality of the clay. Such observations have led Emilia Masson to suggest that two of the Ras Shamra Cypro-Minoan tablets were made at Ugarit, perhaps by a non-native (Cypriot) speaker, possibly expressing a dialectical difference (Masson 1974; 2007, 236). It would require a trip to Damascus and first-hand examination of the tablets to corroborate the readings and formatting details observed by Masson. Finally, a larger corpus of Cypro-Minoan inscriptions is needed before Masson's claims for a separate "Cypro-Minoan 3" dialect and/or script at Ugarit could possibly be substantiated. But re-evaluation of her claims is an important preliminary step in any discussion of how Cypro-Minoan might have been adapted in foreign contexts.

The question of whether so-called Cypro-Minoan 3 is a real distinction is important because of its greater implication, namely that Cypro-Minoan was used frequently enough in a foreign environment to engender adaptations. Potmarks are often cited as evidence for greater use or familiarity with Cypro-Minoan than the small number of formal inscriptions belies. Like Cypro-Minoan 3, potmarks are a fraught category of evidence. The question relevant to this paper is: When is a potmark writing, and when is it just a mark? Or, to put it another way, when is a potmark an inscription? And, specifically, when is it a Cypro-Minoan inscription?

Of the (tens of) thousands of vases and sherds excavated at Ras Shamra-Ugarit, only about 200 potmarks have been recorded (Hirschfeld 2000; Matoïan 2012). Most of the marks are simple in form, and many can be compared with Cypro-Minoan signs. But it is also possible to equate them with elements of several other writing or marking systems. As discussed above, a specific identification can be assigned with confidence only when the individual mark can be placed within the context of a marking or writing system. Even at Ras Shamra, where there is a sure presence of Cypriot writing and a context in which use of Cypriot writing makes sense, at present only the incised marks on Aegean vases can be identified as having some sort of connection with Cypriot writing. This is because this group of marked vases fits the parameters of incised-marked Aegean vases elsewhere and for which a Cypro-Minoan connection has already been established.

A large percentage of the rest of the marks found at Ras Shamra are on amphora handles. In contrast to the Aegean vases with incised marks, marked amphorae cannot be defined as a cohesive group. Rather, it is clear that various marking systems were used: groups of one, two, or three fingerprints impressed into the top of the handle before firing; wedges notched into the handles, also before firing; parallel lines cut into the base of handles; and large bold marks incised into handles, most probably after firing (it is difficult to be certain). No comprehensive study of the patterns of marking Late Bronze Age amphora handles has yet been published, and the origins, functions, and interrelationships among the various ways of marking amphorae are still unknown. Only marks of the last kind listed above have been noticed and published with any degree of consistency, partially because of their visibility, partially because of their assumed connection with writing systems. Based on the present state of knowledge, Cyprus is the single region in the Late Bronze Age eastern Mediterranean with a potmarking system characterized by large single marks incised into the handles of medium to large closed containers. A reasonable hypothesis, then, is that these are elements of a Cypriot marking system, inspired by, but not necessarily strictly borrowed from the Cypro-Minoan script.

I subscribed to this hypothesis in my publication of the marked handles found at Tel Mor (Hirschfeld 2007). Twelve marked vases were found at this site: two Cypriot imports and 10 amphora handles. In my published comments, I note first that marked pottery is rare not only at Tel Mor but also at the other sites in Late Bronze Age Canaan. No site has a sufficient number of preserved marks to determine their purpose; there are no significant clusters. Perhaps this scattered distribution is an indication that marks were used for extrasite purposes. For these reasons, and because the Mor marks are like Cypriot ones in form and application, it is possible that the marks found at Tel Mor may be indicative of some connection with Cyprus or Cypriots.

An amphora handle found at Aphek complicates that explanation (Yasur-Landau and Goren 2004). The excavators posit that the handle was probably originally used in the 13th century, the period of the "Governor's Residency," when Aphek was an administrative center for the region and well connected with the larger eastern Mediterranean. The mark conforms in its features to Cypriot practices; it is large, boldly incised after firing, and conspicuously displayed on the handle. This same mark is incised into local vases on the island of Cyprus and a Mycenaean sherd found at Ras Shamra. The mark itself has a parallel in the Cypro-Minoan script. The unexpected feature of this amphora handle is that petrographic analysis indicates that it was made in the Acco-Tyre area. Assaf Landau and Yuval Goren proposed that the jar must at some point have been shipped to Cyprus, where it was marked, and then eventually reshipped back to Aphek. Though at first this seems a cumbersome explanation, there are good parallels for reuse and reshipping of storage containers (van Doorninck 1989; Peña 2007, 61–118).

As the corpus of potmarks found in the Late Bronze Age Levant increases, my Cypro-centric hypothesis needs to be periodically reviewed. Three trajectories of research are needed:

1. Petrography: the petrographic analysis undertaken as part of the study of the potmarks from Aphek and, as we will see below, Ashkelon, illustrate the importance of considering this aspect of manufacture. Perhaps my identification of the large incised marks on the handles of amphorae as associated with Cypriot marking practices—a theory based on numbers and distribution—will need to be revised as objective evidence for locally made, marked vases accumulates. At some point it becomes cumbersome to continue to insist on Cypriot involvement (whether in terms of place or people).
2. Incision of marks before/after firing: it is usually very difficult to distinguish visually between marks cut into leather-hard and fired coarse clay, especially since the surfaces of the protruding handles are often battered or weathered. But it is certainly worth trying to find some objective criteria for distinguishing between pre- and postfiring marks. Marks made before firing necessarily were made at the place of origin, and the identification of prefiring marks coupled with petrographic analysis has tremendous potential for establishing origin points for marks and/or marking systems. I welcome suggestions for an objective method.
3. Sample size: all the various marks that appear on coarse pottery of the Late Bronze and Iron Age Levant need to be noticed, recorded, and published with the same thoroughness that is accorded the marks on, for example, Mycenaean pottery. We need to have a better sense of the frequency of marking and the variety of marks. As more marks are noted and patterns of occurrence redrawn, it will undoubtedly be necessary to reevaluate the "Cypriot" connection.

Cypro-Minoan beyond the Island and the Bronze Age, too?

Into this present state of uncertainty about the potmarking systems current in Syria-Palestine enter the inscriptions found at Ashkelon. Cross and Stager (2006) published 19 inscribed objects, found in both Late Bronze and Early Iron Age contexts: one ostracon with a painted inscription, one

Minoan stirrup jar handle with a single incised mark, and 17 jug and storage jar handles, also with incised marks. The authors identify all of these inscriptions as Cypro-Minoan, an identification that has important linguistic and historical implications. In Cross and Stager's words: ". . . early Philistines of Ashkelon were able to read and write a non-Semitic language, as yet undeciphered, using Cypro-Minoan script" and "Cypro-Minoan signs or their derivatives are at home on the Palestinian coast" (Cross and Stager 2006, 129–130, 135 n. 6).

With the exception of one handle that has two signs, the dipinto is the only multisign inscription (Cross and Stager 2006, 131–134). It was found in an 11th century context, and petrographic analysis indicates that it was made locally, at Ashkelon. It consists of nine signs, or, if the vertical line is understood as a word divider, sequences of two and six signs. The authors reasonably suggest that the cramping at one edge indicates a right-to-left reading. They argue that the orientation of the second sign from the right further supports this reading, as it is reversed from the usual orientation of the Cypro-Minoan sign that they cite as a comparandum. A right-to-left reading for a Cypro-Minoan inscription is unusual (insofar as we understand Cypro-Minoan writing practices) but not without precedent. Cross and Stager identify all the signs on the ostracon with Cypro-Minoan signs and conclude that ". . . the inscription is written in a form of Cypro-Minoan script utilised and slightly modified by the Philistines" (Cross and Stager 2006, 134).

I would argue that this statement overreaches. The inscription is comprised of signs so simple that the individual identification of any one with a sign of the Cypro-Minoan script can be regarded only as a possibility. No other feature of this inscription—its *ductus*, its direction, its vocabulary (there are no correlations with attested Cypro-Minoan words or sense units), or its functional, chronological, or geographical contexts—suggests specifically Cypriot affiliation. Cross and Stager suggest that historical circumstances would have been conducive for such a connection but do not develop this argument (Cross and Stager 2006, 134). Instead, they bolster their identification of the ostracon's script by identifying the 18 potmarks found at the site as further examples of the currency of Cypriot writing at Ashkelon.

Cross and Stager identify the mark incised into the handle of a coarse ware "oatmeal" Minoan stirrup jar as a sign of the Cypro-Minoan script (Cross and Stager 2006, 149–150, no. 18). I will claim only that this vase is marked in the Cypriot manner and, like the other similarly marked Aegean vases in Syria-Palestine, it arrived via Cyprus or Cypriots (Hankey 1967; Hirschfeld 1992, 1993).

The other potmarks found at Ashkelon are all incised into the handles of jugs or amphorae, and they follow the Cypriot conventions also. Petrographic analysis of the five from Late Bronze Age contexts indicates that they were made on Cyprus, Lebanon, or northwest Syria (Cross and Stager 2006, 129, 135–147, nos. 2, 7, 8, 12, 15). None of this requires any significant revision of the hypotheses proposed above. But the remaining 12 marked vases push the parameters in two ways, chronologically and geographically. First, they come from 12th and 11th century contexts. If the handles were in use then (rather than being relics from the Late Bronze Age), then they indicate that the practice of incising large marks into the handles of closed containers continued into the earliest Iron Age on the Levantine coast. On Cyprus this practice seems to have ceased with the end of the Late Bronze Age. Second, petrographic analysis indicates that most of the 12 marked handles from 12th and 11th contexts were produced locally in Syria-Palestine (Cross and Stager 2006, 129, 135–148): one at Ashkelon (no. 5), one in or near Dor (no. 6), and seven in coastal Lebanon (Acco-Tyre; nos. 3, 9, 10, 13, 14, 16, 17); the remaining three were not analyzed or their clay was not identifiable. Following Cross and Stager's hypothesis, it seems then that we have at Ashkelon evidence for the continued and local use of a marking system originally associated with Late Bronze Age Cyprus.

As so often in archaeology, the same evidence can be evaluated in utterly contrasting ways. Rather than seeing these amphorae as confirmation of Cypriot influence in Canaanite marking, I begin to question my hypothesis that bold marks incised on handles all need to be associated with Cyprus. In any case, it is premature to identify these individual marks as signs of a particular script. The incised marks on the jar handles from Ashkelon are not evidence of Cypro-Minoan writing. They are evidence of a marking system or systems, but only in the case of the coarse ware

stirrup jar can it be demonstrated that the marking system is Cypriot, and even then, there is possibly only a loose association with the Cypriot script. We simply do not know enough about local marking systems in the Levant to assert that any large boldly incised marks on amphora handles are "Cypro-Minoan," nor do we know the extent to which marking systems were related to writing system(s). The scenario of Cypriots in the Levant during the Late Bronze and Early Iron Age, bringing and then eventually changing and adapting their administrative systems, is reasonable. But the ostracon and potmarks found at Ashkelon do not prove this hypothesis. Nor do they indicate the adoption and adaptation in Canaan of the writing system used on Late Bronze Age Cyprus. The "inscriptions" cannot be positively identified as Cypro-Minoan writing, and even the designation "inscription" is questionable for all but the painted ostracon and perhaps the one handle with two marks. (See also Davis 2011, which came to my attention after this article was submitted.)

Conclusions

Red Lustrous Wheelmade pottery may well have been produced on Cyprus, but the marks drawn into the wet clay during the production of spindle bottles (and very rarely, other shapes) are not evidence of their location of manufacture. The marks incised into the handles of amphorae found at Ashkelon may indicate the influence of writing, but it has not (yet) been demonstrated that that writing was Cypriot. Cypriots did write on vases, but it needs a rigorous methodology to identify which marking system(s) were based on signs of writing.

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CHAPTER

21

O-no! Writing and Righting Redistribution

John Bennet and Paul Halstead

Φωτιά στον Άνω Εγκλιανό σαν πήρε το παλάτι
ο γιός του Νέστορ' έστησε στην κλειδαριά το μάτι.
Μ' αυτά που είδε τρόμαξε, στ' αδέρφια να μιλήσει
"παιδιά, μη σπάστε πιάτο και ο γέρος μας γαμήσει."

For more than half a century, redistribution has occupied center stage in scholarly analysis of Mycenaean (palatial) political economy.* While awareness of the "otherness" of palatial economy is rather older (Keramopoullos 1930; Alexiou 1953–1954), the decipherment of Linear B established as orthodoxy the view that Mycenaean palaces were essentially redistributive centers. In the words of Moses Finley's much cited review of the first edition of *Documents in Mycenaean Greek* (Ventris and Chadwick 1956), the decipherment revealed "a massive redistributive operation, in which all personnel and all activities, all movements of both persons and goods . . . were administratively fixed" (Finley 1957, 135). The absence of references to equivalence of value between commodities seemed to show that recorded transactions did not take the form of exchange—giving A in return for B, but of redistribution—the transfer of goods and services on the basis of established obligations and rights (Finley 1957; Polanyi 1957, 253–254; Killen 1985, 285). As Finley acknowledged (1957, 135), his emphasis on the palaces as centers of redistribution rested on the (unsupported) assumption that Linear B records monitored all economic activity within the territory of each palace. His assessment of the Linear B evidence was repeated, without this note

*The text at the beginning of this paper is from a previously unpublished inscribed clay tablet fragment (PY An 8/Do 2) recovered during cleaning at the "Palace of Nestor." The restored text apparently sheds light on the final destruction of the palace and contradicts the consensus that Linear B was not used for literary purposes. This interpretation of the preserved text, and our reading of the poorly preserved final word, draws on informal discussion with Cynthia and other colleagues at the Society for American Archaeology (SAA) meetings in Nashville in April 1997.

of caution, by Colin Renfrew in his *Emergence of Civilisation* (1972) and so became embedded in primarily archaeological, diachronic models of palatial origins as well as in primarily text-based, synchronic discussions of palatial political economy.

A crucial early challenge to this orthodoxy, and hence the point of departure for this contribution, was Cynthia Shelmerdine's analysis of the Ma "proportional tribute" or "taxation" records from the palace of Pylos (1973). The Ma series documented the fulfillment, by 17 subsidiary districts within the Pylian kingdom, of obligations to contribute to the palace specified amounts of a range of commodities. This series was, at first sight, one of the most readily comprehensible components of the Linear B corpus and, perhaps for this reason, arguably played a central role in shaping especially archaeologists' perceptions of how the palaces mobilized the resources necessary for their support from a large subordinate territory (e.g., Renfrew 1972, 297). Shelmerdine demonstrated that the contributions of subcenters differed in absolute size, but followed fixed relative proportions between commodities, thus undermining Renfrew's argument that palatial centers emerged to collect and redistribute the fruits of ecologically determined, local specialization. More importantly, in the present context, this suggested that the rather enigmatic commodities recorded in the Ma series were collected in quantities modest enough for their availability to be insensitive to local ecological variability (Shelmerdine 1973, 1988). Subsequent studies suggested that the commodities listed in the Ma series were not staples (de Fidio 1982; cf., most recently, Killen 2008a) and that the method of assessing obligations (sharing a rounded, kingdom-wide target between subcenters, prior to subtracting allowances for unrelated services) was inevitably insensitive to palatial "needs" (Killen 1996). Shelmerdine, Pia de Fidio, and John Killen thus collectively made clear that, whatever the symbolic importance of proportional tribute by subcenters, this component of the redistributive economy did not play a major part in palatial resource mobilization.

The remainder of this chapter extends this approach to Mycenaean palatial redistribution as a whole. The first section draws together a range of previous arguments that Linear B texts provide a very incomplete and selective record of Mycenaean political economy—and even of activity involving the palace. The second part argues that the "unrecorded" economy was essentially nonredistributive in nature, while the third then discusses a group of Linear B texts that may indicate a significant role therein for exchange in the sense, dismissed by Finley and Karl Polanyi, of giving one commodity or service in return for another. The fourth and final section suggests that a similar approach, focusing on the practicalities of palatial administrative practice and their implications for archaeological formation processes, may also illuminate the role of gift exchange in the palatial political economy.

The "Administrative Reach" of Linear B Records

Inevitably, the surviving Linear B corpus preserves only a small proportion of the information originally recorded on unfired clay surfaces: only a small fraction of the original output was fortuitously converted by fire to a durable form, and the subjection of this fraction to partial postdepositional survival, partial excavation, and partial retrieval is illustrated by incomplete broken documents and incomplete sets of documents (such as where totaling documents reveal the loss of some more detailed records: e.g., Olivier 1967, 1988, on the Knossos Da-Dg and Dn records). More significantly, surviving Linear B records are also highly selective in their coverage. This selectivity is evident in a number of ways.

First, surviving records are to varying degrees biased toward major subcenters over minor settlements, toward core over peripheral districts, and toward important central and local officials over low-ranking individuals (e.g., Godart 1977; Killen 1984b, 1987; Bennet 1985, 1988, 1992). In part, these biases reflect the tendency for the palaces to mobilize bulky resources from nearby and less bulky or more mobile resources from farther afield: for example, the production and collection of staple grain were concentrated around major centers

(Bennet 1985, 246; Killen 1992–1993b; 1994–1995; 1998b), and, while wool flocks contributing raw fiber to palatial weavers were widely distributed, breeding flocks supplying replacement livestock were disproportionately located in peripheral regions (Godart 1977). In part, the biases reflect palatial delegation of some responsibility for mobilization to local authorities: for example, although the palace granted exemptions on proportional tribute in respect of services by particular individuals, responsibility for the remaining tribute lay with the local community (Foster 1981; Killen 1985, 244–250, 258–259; 1992–1993a).

Secondly, the Linear B corpus contains little or no reference to a number of significant commodities that are well attested archaeologically, often within the palaces themselves: for example, pulses, a range of game, and the products of many nonspecialist crafts including pottery (e.g., Halstead 1995, 1998–1999; Whitelaw 2001). Thirdly, even for commodities well represented in Linear B and of evident concern to the palace, the administrative cycle is strikingly incomplete. Obvious lacunae include the mobilization of human labor for harvesting wheat (Halstead 1999b; we follow here the conventional identifications of ideograms **120* and **121* as "wheat" and "barley," respectively, though their reversal [Palmer 1992; cf. Halstead 1995; Killen 2004] would not affect our argument) and the basis on which the palace secured its share(?) of grain produced on local community (*da-mo*) land (Killen 1998b), the production of barley, the reproduction and eventual consumption/disposal of the overwhelming majority of livestock monitored by the palace (Halstead 1998–1999), the acquisition of a range of exotic raw materials used in palace workshops (Killen 1985, 265; Shelmerdine 1985, 134–136), and the disbursement of most craft goods produced in palace workshops (Killen 1985, 253–254; Bendall 2007). In sum, the Linear B record fails to account for most of the durable material culture that archaeologists find on Mycenaean sites, palatial and nonpalatial, and for most of the less durable staple resources that ultimately sustained this society.

Linear B thus provides a highly selective window on Mycenaean economy and, not surprisingly, this window reveals flows of goods and services that were of particular interest to the palace (e.g., Shelmerdine 1999). The overwhelming majority of these flows was directed to the palace (Cherry 1978, 425; Killen 1985, 253; 2008b, 173 n. 37), although there are also records of flows from the palace for feasts in local communities (Pylos Vn 20: Palmer 1994, 75–78) and, perhaps of less tangible benefit to the population at large, for offerings to divinities or contributions to religious festivals (Killen 1987, 2001a, 2004, 2006b; Lupack 1999, 2008; Bendall 2007). Among documented flows to the palace, a rough distinction may be drawn between two categories of resources: those (e.g., various raw materials, some simpler craft items, some services) commandeered "ready made" from subordinate communities by means of proportional tribute and those (e.g., wheat, flax, wine, olives, livestock, wool, fine craft goods) in the production of which the palace took an administrative interest. The form and degree of this administrative interest was variable: careful monitoring of the size and composition of sheep flocks and of the fulfillment of lambing and shearing targets (Killen 1964, 1993), the issuing of land and working oxen for the production of wheat and perhaps flax (Foster 1981; Killen 1992–1993b, 1994–1995, 1998b; Halstead 1999b), more enigmatic records of olive trees, fig trees, and vines that appear to include references to young plants (Ventris and Chadwick 1973, 272–274; Killen 2006b, 80), and the *ta-ra-si-ja* issuing of measured quantities of raw materials for production of set amounts of finished goods (Killen 2001b). One of us has previously labeled this category of resource mobilization "direct production" (Halstead 1992), but much of the palace's involvement in agriculture and stock husbandry appears to have involved some form of partnership with local *da-mo* communities or with various individuals (Killen 1998b) and might better be characterized as "sharecropping" (Halstead 1999b, 2001).

Terminology aside, "direct production" or "sharecropping" and *ta-ra-si-ja* arguably played a far more important role—qualitatively and quantitatively—in palatial economy than did "proportional tribute." Qualitatively, wheat and wool provided the basic rations and raw materials for hundreds of dependent workers (Godart 1968; Killen 1979, 1984b); specialist craft goods produced under the *ta-ra-si-ja* system included items with rank epithets that suggest a significant role in maintaining the social

order (Killen 1985); and livestock were contributed to feasts and festivals that doubtless played a major part in legitimizing the palatial elite (Killen 1994; Halstead 2001; Bendall 2007). Quantitatively, even granted the dangers of directly comparing evidence from different palaces, proportional tribute to Pylos of nonstaples, collected in quantities small enough to be insensitive to local ecological conditions (Shelmerdine 1973), pales in comparison to Knossian records of palatial involvement in wheat harvests of hundreds of tons (Godart 1968; Killen 1994–1995), in the management of 80,000–100,000 sheep producing tens of tons of wool (Killen 1964; Olivier 1967, 1988), or in the quantities of olive oil moved through the palace (Foster 1977). Nonetheless, palatial administrative interest in crop and livestock husbandry was strongly focused on wheat and wool, and this implied specialization contrasts starkly with the diverse range of grain crops and more balanced mixture of livestock represented in the bioarchaeological record from Mycenaean southern Greece and, as far as can be determined, from the palaces themselves (Halstead 1995, 1998–1999). Despite its impressive scale, therefore, "direct production"/"sharecropping" accounts for only part—possibly a minority—of Mycenaean farming activity that involved the palace. Evidently, the resources exploited by the palace, but acquired without recourse to written records, were not only very diverse, but also accounted for a large proportion of the palatial economy (Halstead 1999c).

Mobilization without Writing

How did the palace mobilize the resources missing from the Linear B corpus? First, it must be acknowledged that the day-to-day provisioning of the palatial elite including the household of the *wanax* is apparently not documented in the written record (Lane 2004). Elite households presumably drew for this purpose on their own "privately" controlled land and labor, and such "housekeeping" may account for the archaeological representation at excavated palaces of some textually unrecorded commodities (e.g., pulses: Bendall 2007, 282). Textual attributions of land, flocks, and personnel to the *wanax* and other high-ranking officials (Shelmerdine 1999; Bennet 2007a, 194–195), however, suggest that the unrecorded management of elite households is unlikely to conceal a large proportion of palatial mobilization. Secondly, it has been argued that palatial "flocks" were accounting conventions, rather than groups of sheep herded together, and that "herders" contributed young replacement sheep and removed equivalent numbers of adult sheep without explicit recording of either transaction (Halstead 1999a). Some missing stages of resource mobilization may thus be implicit in agreements between palace and "sharecropping" partners (sharing of the wheat harvest between palace and *damos* communities is another possible example; see Halstead 1999b). Significantly, both these suggested rationales for selective textual coverage involve unrecorded resource flows taking place on a different basis from recorded flows. There are grounds for suggesting that this principle should be extended.

Most of the Linear B corpus monitors the fulfillment of obligatory, and often recurrent, contributions (mainly to the palace) of goods and services, as is made clear by the cycle of assessment (including allowances for services), payment, and carrying forward of any deficit (e.g., Killen 1984a). This cycle is more or less explicit in the case of records dealing with "proportional tribute"/"taxation," livestock (flock/herd composition, lambing, shearing), issues of rations to personnel with specified occupations (Killen 2006a), and issues of raw materials to craft workers responsible for specified outputs. Similar obligations are probably implied in loans of working oxen (Killen 1992–1993b, 1998b) and possibly related issues of fodder (Halstead 1999b), as well as in distributions of land to providers of specialist services (some of which could be offset against proportional tribute). They may hold also in the case of provisions (of food, drink, sacrificial animals, and equipment: Killen 1994, 1998a, 2001a) for some banquets and religious festivals, given that many such ceremonies occurred to a predictable timetable, sometimes explicitly assigned to a particular month. These obligatory and recurrent transactions account for the overwhelming majority of the

Linear B corpus—and thus, of course, for Finley's inference of an essentially redistributive economy.

Conversely, it is not implausible that the unrecorded acquisition of at least some exotic materials (and unrecorded export, especially to the east Mediterranean, of Mycenaean pots probably containing scented oil of palatial origin: Shelmerdine 1985, 141–153) took place under the guise of gift exchange with distant elite groups (Killen 1985, 262–263; Bennet 2007a, 191, 202–203), although in the east Mediterranean such formality often concealed calculated exchange of commodities of compatible value. Possible traces of such exchanges include elite Egyptian wall paintings depicting bearers of tribute, some labeled as "from Keftiu (= Crete)" (Wachsmann 1987; Cline 1995), east Mediterranean seals and cartouches found in elite contexts in the Aegean (Peltenburg 1991), and Linear B descriptions of some textiles and perfumed oil as *ke-se-nu-wi-ja* (perhaps meaning something like "for guests" or "for foreigners": Killen 1985, 263–264). Could the palace have acquired commodities and disposed of craft goods more locally on a similar basis? Cloth with the epithet *e-qe-si-ja*, apparently referring to high-ranking members of Mycenaean palatial society (Killen 1985, 288 n. 47; cf. Deger-Jalkotzy 1978), was presumably for local distribution, possibly on the occasion of a palatial banquet, as suggested by Killen (1994, drawing an analogy with Inca practice). Combined with textual and (more enigmatic) iconographic evidence that various individuals contributed provisions for (or at) palace-sponsored banquets (Bendall 2004; Wright 2004, 41–42, 46), this leaves scope for gifts and countergifts on a considerable scale in such ceremonial contexts, as is well documented in the Bronze Age Near East (Schmandt-Besserat 2001).

Rare finds of Late Bronze Age shipwrecks are another, tantalizingly rich source of insights into "foreign trade," since they allow us to see commodities "in distribution," whereas the majority of archaeological materials are recovered from "consumption" contexts, less commonly in "production" contexts. While the Uluburun wreck, containing large volumes of a range of exotic raw materials, might represent "state-sponsored" exchange between the east Mediterranean and the Aegean, the smaller and later Gelidonya wreck, with its more modest cargo including bronze scrap, and approximately contemporary with the date of the Pylos documents, may reflect smaller-scale and independent mercantile activity (Sherratt 2001; Bennet 2007a, 203). Support for this view may be offered by two texts from Pylos recording palatial acquisition of *tu-ru-pte-ri-ja* (alum) from two individuals, of whom one (*ku-pi-ri-jo*) might be a prominent member of the elite (Killen 1995), but the second (*a-ta-ro*) is otherwise unknown (Ventris and Chadwick 1973, 174; Rougemont 2009, 506; but see now Nakassis 2013, 224). The implication, if alum is correctly identified, that the palace acquired an imported material from a possibly local third party is consistent with some extraterritorial trade taking place independently of the palace (Shelmerdine 1985, 137; Palmer 1994, 100–101). Regardless of the precise identification and source of *tu-ru-pte-ri-ja*, however, these two texts offer rather convincing evidence that the palace engaged in exchange of one commodity for another. The named individuals were apparently to be given specified quantities of wool, wine, figs, and goats as *o-no* (payment, benefit) for deliveries of alum. Although this term occurs rarely in Linear B, and so was overlooked in Finley's argument for a redistributive economy, closer examination of the handful of relevant examples suggests that this category of inscribed clay document may be heavily underrepresented in the Linear B corpus.

"*O-no*" Records

Both John Chadwick and Michel Lejeune dealt with economic terminology at the 1961 Mycenaean Colloquium held in Wingspread, Wisconsin, concluding independently that the term *o-no* should be linked with the verb ὀνίνημι, "I benefit," and so should have the sense of "benefit" (Chadwick 1964; Lejeune 1964; cf. Duhoux 1976, 130–134; Killen 1995, 217–224; Rougemont 2009, 194–198). This term, either in singular (*o-no*) or plural (*o-na*) form, occurs on only 16 tablets in the entire Linear B corpus: two at Mycenae (Oe 108, 109), eight at Knossos (Fh 347, 348, 361, 372, 5431, 5447; M[1]

559; Od 5558), and six at Pylos (An 35, 724; Ua 158; Un 443, 1322; Xn 983). It is therefore rare, in comparison with the term *a-pu-do-si* that is frequently associated with the type of regular delivery of goods and commodities outlined above. Killen, while convincingly rejecting William Gallagher's alternative explanation that the term meant "ass-load," has made a strong case for understanding the Knossos references as "benefit (to a high-ranking 'collector')" and those at Pylos as "payment" for goods or services (Killen 1995, 223–224; cf. Gallagher 1988). It is the Pylos examples, therefore, that are of immediate concern here.

Although the majority of Pylos documents were recovered from Rooms 7 and 8 of the palace, the so-called Archives Complex, a number were discovered in various other spaces, notably Rooms 23–24, 32, and 38–41, the "Wine Magazine," and the "Northeast Building." Shelmerdine and Thomas Palaima have argued on a number of occasions that there were centripetal forces acting on such documents, such that they would ultimately end up in the Archives Complex for further processing and storage (Shelmerdine and Palaima 1984, 80–81; Palaima 1988, 179–189; 1996; 2003, 178). More important, however, is the fact that such documents in many cases appear to relate to the disbursement of commodities from store (e.g., oil from the storerooms Rooms 23 and 24) or their arrival into store (e.g., the Wine Magazine, where discarded sealings were found that had probably been attached to deliveries: cf. Palmer 1994, 143–165). Such disbursements apparently did not happen on a regular cycle (although two Fr tablets contain possible month names: Fr 1221, 1224), in contrast with the way that many other obligations were organized in Linear B administrations at Knossos, Pylos, and elsewhere. That this might be the case is suggested by the explicit inclusion of an "occasion" in some documents that deal with disbursements from store, such as Pylos Un 2, which records the release of commodities for a feast outside the palace itself (at *pa-ki-ja-ne*) "on the occasion of the *wanax*'s 'initiation.'"

Documents like these are relatively rare among Linear B records, arguably because their "shelf-life" was very short: they were only current for a period at, and shortly before, the release of the commodities concerned. It is into this category that the two Pylos documents (An 35; Un 443) that list commodities being given as "payment" (*o-no*) for alum fall.

An 35

.1 to-ko-do-mo , de-me-o-te
.2 pu-ro VIR 2 me-te-to-de VIR 3
.3 sa-ma-ra-de VIR 3 re-u-ko-to-ro VIR 4
.4 *vacat*
.5 a-ta-ro , tu-ru-pte-ri-ja , o-no
.6 LANA 2 CAP^{f} 4 **146* 3 VIN 10 *NI* 4

Un 443

.1 ku-pi-ri-jo , tu-ru-pte-ri-ja , o-no LANA 10 **146* 10
.2 po-re-no-zo-te-ri-ja LANA 3
.3]ḍọ-ke , ka-pa-ti-ja , HORD 2 te-ri-ja GRA ḷ LANA 5

Both are unusual in format. An 35 is distinctive because it is difficult to see an obvious connection between the entry on lines 1–3 relating to "masons" (*to-ko-do-mo*) and that on lines 5–6, which, as Emmett Bennett and Jean-Pierre Olivier (1973, 57) observe, would normally be classified as Un (mixed commodities). The distinction is reinforced by the blank line that separates the two entries and the possibility that lines 5–6 are in a different hand (Bennett and Olivier 1973, 57; not accepted by Palaima 1988, 68–69, who assigns the whole tablet to Hand 3). Finally, the fact that the tablet was cut at the bottom (regardless of whether it was cut before or after the present text was written) may suggest it was a "spare" piece of clay available for a short-term "memo" or "memos." Some support for this possibility is offered by the other "alum" text, Un 443, whose first line follows exactly the same pattern as An 35.5–6. Un 443 is a palimpsest, originally ruled with lines perpendicular to its present arrangement, adapted to accommodate its current text (Bennett and Olivier 1973, 249). Again, as in the case of An 35, it is difficult to tell whether the entry on the second line of this tablet continues the list of commodities assigned to *a-ta-ro* as *o-no*, or whether it is a separate entry (cf. Palmer 1994, 107–109); the third line, in any case, seems to document a separate transaction. The only linking factor is that wool (LANA) is present in all three.

Both of these documents, then, have the appearance of "contingent" texts, recording data current at the time, but very quickly out of date. Their discovery in Room 8 of the Archives Complex might suggest that they had been "filed" there (cf. Palaima 2003, 177) and therefore constituted part of an "archive" of stored documents. However, we would suggest that the clear distinction of the two

rooms of the Pylos Archives Complex into "temporary storage" (Room 7) and "clay-tablet filing, storage, and referencing" (Room 8) as suggested by Palaima (2003, 177) and others imposes a relatively "modern" logic on the creation and storage of documents (cf. also Peters 2009 for a critique of this view of the Archives Complex). Whatever one's view on this question, however, we have to account for two aspects of these documents in relation to "archiving." Firstly, An 35 in particular defies filing in a single category, given the discrepant nature of the contents of lines 1–3 versus 5–6. How could this one document have been filed consistently in one single location? More significantly, as noted above, we can regard documents like An 35 and Un 443 as recording palatial outgoings in a manner similar to documents like the Fr series that record outgoings of olive oil. The Fr series texts were almost exclusively discovered outside the Archives Complex (in Rooms 23, 32 and 38–41: Bennett and Olivier 1973, 159) in direct association with storage facilities for olive oil; they were therefore clearly written on the spot where that single commodity was stored. In the case of An 35 and Un 443, however, there is no single commodity being disbursed but rather a range of them: wool, goats, **146* cloth, wine, and figs. We might speculate that **146* was stored in the southwest area of the palace (cf. Shelmerdine 1998–1999) and wine in the Wine Magazine (Rooms 104 and 105), and it is not difficult to imagine wool and figs being stored elsewhere in the palace. Goats, however, unless carcasses (and therefore in need of more or less immediate consumption), presumably were penned outside the palace complex. Again, the diverse origins of these commodities—some from within, some probably from outside the palace complex—would preclude this transaction being recorded "on the spot." Rather, as Palaima and James Wright implied some years ago (Palaima and Wright 1985; Palaima 1988, 182–183), the logical place for a document like this to have been written would have been in the Archives Complex, which stood at the interface between the internal- and external-facing aspects of the palace. Further, we suggest that these documents may in fact have been retained here because the disbursement had not yet been made but was imminent. There is no verb form (e.g., as on Pylos Un 718.3.9: *do-se*, "[x] will give"; cf. Palaima 2003, 180), so no explicit indication either way about whether the transaction has taken place or will (shortly?) take place.

If this interpretation of these two Pylos documents is correct, then it follows that many more such documents were written than might be available at any one time for preservation and discovery millennia later. We would argue, therefore, that these contingent documents are evidence both for palatial involvement in a modality of exchange (i.e., exchange, sensu stricto) that does not fall comfortably under the rubric of "redistribution" and for its systematic underrepresentation in the documentary material preserved.

Because of this underrepresentation, the few surviving *o-no* texts offer very little evidence of which commodities were exchanged in this way, but it is worth noting that the commodities paid in return for alum on the Pylos documents An 35 and Un 443 are raw materials (wool, goats, figs) or processed goods of relatively low value (**146* cloth, wine) but not prestige ("added-value") products of palatial craft specialists (Palmer 1994, 93; Killen 1995, 220). Similarly, in Un 1322, from Room 99 in the Northeast Building, the palace pays wheat in return for **146* cloth and pays wheat and figs to net maker(s) and weaver(s) for unspecified services, while Ua 158, from Room 8 and also a palimpsest (Palaima 1988, 125), perhaps records payment of wheat and figs (Killen 1995, 218, 224). (Pylos Xn 983, also recovered from Room 8, unfortunately preserves insufficient text to allow any useful interpretation of its purpose.) At Mycenae, too, Oe 108 records payment of wool (no commodity is preserved on Oe 109). Even the Knossos *o-no* texts, dealing with allocations in a rather different context, record the disbursement of oil and wool rather than prestige goods such as perfumed oil or fine textiles. Though sparse and fragmentary, therefore, the evidence of the *o-no* texts is consistent in suggesting that exchange *sensu stricto* was not the mechanism by which the palaces disposed of specialized craft goods. Again, close consideration of palatial administrative practice may shed useful light on previous discussion of this issue.

Unwritten Gifts?

The existence of documents like An 35.5–6 and Un 443 implies that the exchange of commodities, even when not part of regular cycles of obligation, did involve recording in writing (albeit of a short-lived nature). Killen (2001b, 169–176) has suggested that some Mycenaean "industries" such as the production of perfumed oil might have been managed differently from the devolved *ta-ra-si-ja*–based processes operating for textiles (especially at Knossos) and metals (at Pylos). Specifically, he suggests that the former might have been managed by high-level, trusted figures (Killen 2001b, 176) and the same may be true for very tightly controlled palatial production like that of ivory, gold, or blue glass (Bennet 2008; cf. Killen 2003, on Pylos Va 482, dealing with ivory). If so, the stages of nondevolved production may well be underrepresented in the textual record: we have references to gold workers (*ku-ru-su-wo-ko*) and blue glass (*ku-wanos*) workers (*ku-wa-no-wo-ko*), for example, but they are indirect; they do not record the allocation of raw materials to the craftspeople named, or the delivery of finished products by them. Nonetheless, while Killen is surely right that high-ranking officials were accorded a much greater degree of trust than low-ranking local officials and craftsmen, it remains the case that the resources apparently attributed to high-ranking "collectors," through both redistributive and *o-no* transactions, were recorded in writing.

Given hints in descriptors applied to certain palatial products that they were "for the *hek*^{w}*etai*" (*e-qe-si-jo/-ja*—cloth at Knossos: Ld[1] 571.b, 572.b; chariot-wheels at Pylos: Sa 753, 787, 790; Wa 1148), as we note above, it is possible that such products were distributed as gifts in the context of palatial feasting events (Killen 1994). In this instance, we suggest, recording of the actual distribution may not have been required because it was carried out by the *wanax* himself. This would be entirely consistent with the way in which the *wanax*'s involvement in palatial display and ceremony required his physical presence (Bennet 2007b), making the use of writing redundant. In this instance, such gifts would be undocumented in the Linear B records because they were made by the *wanax* in person (and perhaps the *lawage[r]tas*?). We wonder, too, if this helps explain the significance of the designation of some craftspeople as *wa-na-ka-te-ro* (a potter, a fuller, and an *e-te-do-mo*, possibly *entesdomos*, "armorer") or *ra-wa-ke-si-jo* (a wheelwright, or possibly charioteer, **a-mo-te-u*) (Carlier 1984, 68–72; 1996; Palaima 1997); they would provide a service directly to the *wanax* or *lawage(r)tas* in return for landholding, but this service would not appear in palatial records. Others have previously argued that the absence of unambiguous texts documenting the exchange of high-value products outside of the palace, and indeed the rarity of texts dealing with the disbursement of palatial craft goods in general, may be attributed to gift exchange taking place "out of sight" of written records (cf. Killen 2008b, 181–189). In agreeing with this view, we would add that the authority to engage in the personalized giving of prestigious palatial craft goods was restricted to the very highest echelons of palatial (or at least Pylian) society.

Conclusions

It has increasingly been recognized over the last two decades that the Linear B texts are highly selective in their coverage and, consequently, that the role of redistribution in the Mycenaean palatial economy has been overstated (Morris 1986; Galaty and Parkinson, eds., 1999; Bennet 2007a, 190, 195–196, 206–207). Here we have tried to take the modeling of palatial economy a step further by thinking through the implications of administrative and scribal practice for (1) what is recorded in Linear B and (2) archaeological formation processes and thus the frequency of representation of different forms of palatial resource procurement.

Arguably we can begin to distinguish the imprint (or shadow) of both exchange, sensu stricto, and gift giving alongside the better-known

redistributive transactions. Consideration of the interface between administrative practice and archaeological formation processes suggests that exchange is heavily underrepresented and gift giving wholly unrepresented in Linear B. Redistribution therefore may well have been quantitatively and qualitatively less important than exchange and gift giving for Mycenaean political economy. In response to Cynthia's question (Shelmerdine 1999) "Where is the chief?," we would say that he is seated on his throne giving prestigious palatial craft goods to grateful and obliged subjects and retainers, while his literate officials use a combination of exchange and redistribution to mobilize the rations and raw materials needed to sustain this wealth finance system. If this response is persuasive, we suggest that this is because it draws on both textual and archaeological evidence and approaches, in which Cynthia was a pioneer in a series of studies that combine rigorous attention to detail with an ability to grasp the larger picture.

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CHAPTER

22

Two Personal Names (Dative *me-to-re-i* and *o-po-re-i*) and a Place Name (Directive *me-to-re-ja-de*) in Mycenaean Thebes

José L. García Ramón

The form *me-to-re-i* in the new Theban tablets (Fq) is unanimously considered to be the dative (dat.) of a man's name (MN), belonging to one who is mentioned as a recipient of barley and flour.* The nominative (nom.) *me-to-re*, attested at Knossos and Pylos, makes clear that the name is surely a stem in *-*es*-.

The dossier of *me-to-re* has been recently enlarged by the form *me-to-re-ja-de*, attested in a fragmentary tablet from the Odos Hagion Apostolon (Aravantinos, Godart, and Sacconi 2006, 8–9), the directive form of a place name (PN) *me-to-re-ja*.* This form is surely connected with *me-to-re*, but what Linear B *me-to-re* conceals is much debated. The first component /*Met(a)*°/ (: μετά) seems clear, but the second component remains controversial. Two possibilities have been proposed, namely /*ºōlēs* / (/*Met-ōlēs*/; Lejeune 1971, 200 n. 4) and /*ºōrēs* / (/*Met-ōrēs*/; García Ramón 2006, 39). It has not been sufficiently stressed that the structure of the dative *me-to-re-i* is the same as that of the dative *o-po-re-i*, which also occurs in the Theban tablets from the Odos Pelopidou. An interpretation of the latter example as the dative of a compound /*Op-ōrēs*/ (de Lamberterie 2003; Guilleux 2003, 264–265; García Ramón 2006, 39; 2010, 78; 2011, 233) is assured, irrespective of its being a personal name, the name of a deity, or an epiclesis used as the name of a deity.

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In the present contribution, an attempt will be made to show that the MN *me-to-re* conceals /*Met-ōrēs*/, an onomastic compound with μετά "behind, after" and "in the middle of" and ὄρος "mountain," of the same type as dative *o-po-re-i* (nom. *o-po-re**), which is doubtless also a MN /*Op-ōrēs*/ (ὀπί, ὄρος). I will also argue that *me-to-re-ja*(*-de*) /*Met-ōreia*/ is a regular compounded PN of the same type as Παρώρεια, Ὑπώρεια, and others.

Establishing *me-to-re* as a Man's Name

Let us recount some points of interest for our purposes about the MN *me-to-re* (KN Da 5295 + 5384 +, Og[2] <4467>.2, PY Na 924.B), dative *me-to-re-i* (TH Fq 132.[5], Fq 229.[7], 252.2̣, Fq 254[+]255.7, 276.[9̣], Fq 292), and the dative *o-po-re-i* (TH). Both names occur in two relatively large tablets, namely Fq 229 and Fq 254[+]255, both written by Hand 305. By considering the first seven lines of each tablet we can state two crucial facts:

Fq 229

.1 ma-ḳạ[
.2 o-po-re-i [
.3 a-pu-wa z 2 ko-ẉạ[
.4 ra-ke-da-mi-ni-jo FAR [
.5 qe-re-mạ-o v 1 z 2 mạ[
.6 a-me-ṛọ v 1 ka-wi-jo v 1[
.7 o-ti-ri-ja-i v 1 me-to-re[-i

Fq 254[+]255

.1 de-qo-no ḤỌṚḌ T 1 v 2̣ z 3 o-te , a-pi-e-qe⌊ ⌋ke-ro-ṭạ
.2 pa-ta , ma-ka HORD ṬỊ v 2 z 2 a-ko-da-mo v 2
.3 o-po-re-i[ ]mạ-ḍị-je v 1[ ]1̣ ḳạ-ne-jo v 3
.4 ḳọ-wa z 2 a-pu-wa z 2 ko-ru z 2
.5 qe-re-ma-o v 1 z 2̣ ẓọ-ẉạ v 1̣ a-me-ro v 1
.6 ka-wi-jo FẠṚ v 1̣ *6̓3̓[ ]ḳạ[ ] i-qo-po-qo-i v 1 z 1
.7 a-ṛạ-ọ FẠṚ v 1[ ] v 1 me-to-ṛẹ-i z 2

Firstly, *o-po-re-i*, which according to the editors of the Thebes tablets is an epithet of Zeus used as a designation of Zeus, does not occur next to *ma-ka* and *ko-wa* on either tablet. The editors have interpreted *ma-ka* and *ko-wa* as theonyms, Demeter and Persephone, respectively, and suggested that they constitute a religious triad with *o-po-re-i* (Aravantinos, Godart, and Sacconi 2001). But such a proposal has no parallel supporting it in Mycenaean (Myc.) Greek and nothing in the tablets themselves argues for the presence of a divine triad (García Ramón 2010, 86). In Fq 229.1, *o-po-re-i* on line 2 is separated from *ko-wa* on line 3 by *a-pu-wa*, and in Fq 254[+]255 *ma-ka* is separated from *o-po-re-i* on line 3 by the MN *a-ko-da-mo* (García Ramón 2006, 45) on line 2. On the same tablet, *o-po-re-i*[is separated from *ḳọ-wa* on line 4 by]*mạ-ḍị-je* and *ḳạ-ne-jo* on line 3. It is interesting to note that *ko-wa* is followed by *a-pu-wa* on both tablets. This observation complements the fact that there is no single text in which *o-po-re-i*, *ma-ka*, and *ko-wa* are written directly one before or after the other, as one expects for genuine triads (for this argument, see Duhoux 2002–2003, 174–176; Weilhartner 2005, 197; Killen 2006, 102–103; García Ramón 2010, 86). An example of a divine triad can be found in PY Tn 316 *v.* 9–10, where Zeus (*di-we*), Hera (*e-ra*), and Drimios, son of Zeus (*di-ri-mi-jo di-wo i-je-we*), occur, and the name of each deity is followed by an indication of offerings. On their own, these facts are enough to rule out any possibility of a divine triad in the Theban texts (on the interpretation of the new Thebes texts as wholly or partly religious, see Killen 2006 or Weilhartner 2005; for nonreligious interpretations, see Palaima 2000–2001; Melena 2001, 49–51; Duhoux 2002–2003; 2005; García Ramón 2010). Here, however, I will argue that the dative *o-po-re-i* may actually conceal a MN, like several of the recipients (also in the dat.) in both tablets.

Secondly, *me-to-re-i* (a MN in the dat.) occurs as a recipient, basically in the same contexts as *o-po-re-i*, although the amounts assigned to the latter in Fq 254[+]255 are higher (probably v). On the same tablet, the assumed goddess *ko-wa* is assigned the same amount of barley as the amount of flour assigned to *me-to-re-i*. In absolute terms, the amount assigned to both (z 2) is comparatively high (two of the smallest units).

In sum, *me-to-re-i*, a MN, and *o-po-re-i*, surely a MN as well, have the same structure.

Interpretation of *o-po-re-i*

The Mycenaean word *o-po-re-i* /*Opōre*^{h}*i*/ is a compound with the first member ὀπί (: ἐπί) and the second member ὄρος "mountain," which reflects a combination of ὀπί/ἐπί and ὄρει (or ὄρεσσι). This collocation is attested in Homer (*Il.* 5.522–523), as I have pointed out (García Ramón 2006, 39; 2010, 78):

> . . . νεφέλῃσιν ἐοικότες ἅς τε Κρονίων
> νηνεμίης ἔστησεν ἐπ᾽ ἀκροπόλοισιν ὄρεσσι,
>
> like clouds which the son of Kronos
> stops in the windless weather on the heights of the towering mountains

The Greek ὄρος is probably attested in *o-ṛe-i* /*ore*^{h}*i*/ (KN B 7034) and in men's names such as *o-re-ta* /*Orestās*/ (PY An 657.3) (:Ὀρέστης from **Oresstā*- "standing in the mountains," cf. ἵσταμαι) and also *o-re-a*$_2$ /*Ore*^{h}*ās*/ (PY Ep 705.7, probably a "short form"), as Leukart (1994, 157–159) has shown.

The attempt to interpret *o-po-re-i* as the dative of *ὀπώρης (: ὀπ-ώρα "autumn") is surely wrong, since it is incompatible with the safely established etymology of the second element of ὀπ-ώρα (Proto-Greek **os-ar+ā*): ὀπ-ώρα is a derivative in *-ā-* from an Indo-European heteroclitic *-r/n-*stem *°*os-r/n-*. This reconstruction is assured beyond any reasonable doubt, as shown by its reflexes: Gothic *asans* "harvest (time), summer," Old Church Slavonic *jesenь* "autumn," and Old Prussian *assanis*. The Mycenaean form for "autumn" could only have been */*op-o*^{h}*arā*/, which would have been written *<*o-po-a-re-i*> or *<*o-po-a*$_2$*-re-i*> (see de Lamberterie 2003 and Guilleux 2003, both of whom accept that *o-po-re-i* conceals a god name; but cf. Palaima 2006, 141; García Ramón 2010, 89–90; 2011, 233). Accordingly, if *o-po-re-i* was the dative of a derivative in *-es-* of */*op-o*^{h}*ar*/, the only possible spelling according to Mycenaean rules would have been *<*o-po-a-re-i*> or *<*o-po-a*$_2$*-re-i*>, not <*o-po-re-i*>. A parallel can be found in the Pindaric Ὡαρίων, which is a variant of the heroic name Ὡρίων (Forssman 1985).

It must be stressed at this point that the dative of the Boeotian epithet of Zeus, in the archaic dedication written <οπορει> ΤΟΙ ΔΙ ΤΟΠΟΡΕΙ (Acraephia, Boeotia, end of sixth century–beginning of fifth century B.C.), can indeed conceal ὀπωρ-. But this is no argument for the interpretation of *o-po-re-i* as a derivative of ὀπ-ώρα "autumn." The Mycenaean *o-po-re-i* (a MN) can be translated as "standing on the mountain(s)," but not "protecteur des fruits," (Aravantinos, Godart, and Sacconi 2001, 190–192) and is an epithet with clear parallels among divine epithets, for example, Ἐπάκριος Ζεύς (de Lamberterie 2003). This reflects the Greek conception of mountains as *sedes deorum*, already in the peak sanctuaries of Minoan times.

Since the transcription /*Opōre*^{h}*i*/ is the only acceptable form of *o-po-re-i*, we can assume the nominative is /*Opōrēs*/* with the regular elision of /*opi*^{o}/ before a vowel. This fits into the pattern of a type of rectional compounds with an adverb as the first member and a noun designating a place as the second. This compound reflects the hypostasis of a prepositional syntagm, similar to the type found in the Homeric εἰν-άλιος (: ἐν ἁλί), εἰν-όδιος (: ἐν ὁδῷ), and ἐπι-δήμιος (: ἐπὶ δήμῳ). This type of compound (in what follows: εἰν-άλιος) is also well attested in Mycenaean Greek. In the case of /*opi*^{o}/, it occurs (without elision) before /^{h}-/ and before /C-/; compare to, for example, *o-pi-a*$_2$*-ra* /*opi*^{h}*ala*/ (PY An 657.1): "coastal region(s)" (on the metathesis *-ihV-* > *-hi*^{j}*V-*, see Leukart 1994, 75), *o-pi-da-mi-jo* /*opi-dāmio-*/ (PY An 830.12, Cn 608.2) : ἐπι-δήμιος, the PN *o-pi-ke-ri-jo* /*Opisk*^{h}*erion*/ (PY An 615.8, *-de* An 724.3) : Ἐπισχέριον (cf. Homeric ἐπισχερώ "in a row;" ἐν σχερώ "in a line" [Pind. *Nem.* 1.69, 11.39; *Isthm.* 6(5).22] and Hom. *Il.* 18.68: ἀκτὴν εἰσανέβαινον ἐπισχερώ, ἔνθα θαμειαὶ/ Μυρμιδόνων εἴρυντο νέες. . . "they stepped out on the beach, one day after the other, where the ships of the Myrmidons were drawn up in close lines"), and PN Σχερία, Σχερίη (Strabo 6.2.4, cf. Σχερίη· ἡ Σχερία. ἡ τῶν Φαιάκων χώρα, ἣ νῆσος Κέρκυρα τὸ πρότερον οὕτως ἐκαλεῖτο, Hsch.; according to Ruijgh 1967, 173 n. 378, *o-pi-ke-ri-jo* should be related precisely to Σχερία).

As a MN /*Opōrēs*/* as the reflex of [ὀπί/ἐπί – ὄρει (ὄρεσσι)] is semantically close to epithets like ὄρειος, οὔρειος in poetry (ταῦρον, Soph. *Ant.* 352; οὐρείου Πανός, Eur. *IT* 1126; ὀρεία λέαινα, Eur. *El.* 1162): "mountainous," the Homeric ὀρέστερος

(δράκων, Hom. *Il.* 22.93; λέοντες, Hom. *Od.* 10.212): "living in the mountains," ὀρεσί-τροφος (λέων *Il.* 12.299, 17.61, *Od.* 6.130): "bred on the mountain," and ὀρειδρόμος (Pind. *Pae.* fr. 52g.6, Eur. *IA* 1593; Ἄρτεμιν Semon. fr. 1435[b].7): "running through the mountains."

Interpretation of *me-to-re-i*

For *me-to-re-i*, we can safely assume that it is a compound of the same structure as *o-po-re-i*, with a first member /*met*(*a*)°/ (: μετά), and an identical second member, yielding dative /*Met-ōre*^{h}*i*/ (and nom. /*Metōrēs*/*), a solution proposed independently by Ruijgh (in Aravantinos, Godart, and Sacconi 2006, 8 n. 28) and García Ramón (2006, 39). The exact meaning of *me-to-re*, however, remains an open question. The answer to this question ultimately depends on the interpretation of /*met*(*a*)°/ in prepositional compounds (onomastic or not) with a word designating a place as the second member. This type of compound is well attested both in Mycenaean and in alphabetic Greek. Some attestations occurring with /*op(i)*°/ have already been mentioned: *o-pi-a*$_2$*-ra* /*opi*^{h}*ala*/ "coastal region(s)," MN *o-pi-ja-ro*, *o-pi-da-mi-jo* /*opi-dāmio-*/, and PN *o-pi-ke-ri-jo* /*Opisk*^{h}*erion*/. Two additional forms may be adduced, however:

(1) with /*amp*^{h}*i*°/: PN *a-pi-a*$_2$*-ro* /*Amp*^{h}*i*^{h}*alos*/ (PY An 192.1, Ea 109, 270, 922.a, Jn 478.3, On 300.2, Qa 1297), "having the sea in both sides" (note that *o-pi-ẹ-de-i* "at her seat" in PY An 1281.2 [ὀπί, ἕδος], without word-divider, may be read as two words), and

(2) with /$^{(h)}$*upṛ* º/: PN *u-pa-ra-ki-ri-ja* PY An 298.1 (Hand 3) with variant spelling *u-po-ra-ki-ri-ja* Cn 45.4–7, 11 (Hand 21): ὑπεράκρια "regions on the heights" (Hdt. 6.20, also ὑπεράκριος, Hdt. 1.59), which reflect a syntagm ὑπὲρ τὰ ἄκρα. The spellings *u-pa-ra-* and *u-po-ra-* conceal the reflex(es) of *$^{(h)}$*upṛ*º, a zero-grade variant of *$^{(h)}$*uper* º, which is later regularly attested (see Heubeck 1962 for the root noun *$^{(h)}$*up-*; on locative **uper* º; see Hajnal 1997, 143–146).

Especially interesting for the interpretation of *me-to-re-i* are two compounds with /*met*(*a*)°/: μετά with "water" and "sea" as the second member. The Pylian PN *me-ta-pa* /*Metapa*/ perfectly matches the toponym Μέταπα (Elis, Aetolia, Acarnania) and the ethnic Μετάπιοι in an Elean inscription (Dittenberger and Purgold 1896, 26–27, no. 10; Schwyzer 1923, 214, no. 414.2; Minon 2007, 97–103, no. 14); compare to Μετάπιος, an epithet of Apollo in Aetolia (*IG* IX I^{2} 573.8). Whether the forms with Μεσ(σ)° (cf. also Myc. PN *me-sa-po* PY Na 606 /*Messapos*/) belong to the dossier of Μετ(α)° must remain an open question. In any case, an etymological connection between **met(a)*° and **med*^{h}*i̯(o)*° can be ruled out on phonetic grounds.

In Mycenaean Greek, *me-ta-pa* (: Μέταπα) allows us to recognize a second member º*apa*- "water" (Indo-European **h*$_2$*ep*-; Vedic *áp*- ; Latin *amnis* "river"), which is rarely attested in Greek. The two known examples are Ἀπία, an old name of Peloponnese (Aristid. *Or.* 21.3), and the personal name *e-wi-ri-po* /*Eurīpos*/ (: Hom. εὔριπος "strait," i.e., *"having a broad current" [Forssman 1988], attested also as a PN). A semantic parallel is the PN Μεταπόντ(ι)ον (Pisatis, Acarnania, also Magna Graecia, Sicily), Μετάποντος (with °ποντος "sea"), also attested as a common adjective by Hesychius (μεταπόντιος· διαπόντιος).

It is well known that in alphabetic Greek μετά may mean "in the middle, among" (with the "dative," i.e., locative), and "after, beyond" (with accusative), and both could a priori underlay a compound with μετά°. Two points can be made in favor of an interpretation of the Mycenaean /*Metōrēs*/* as meaning "being/living in the middle of the mountains":

(1) The sense "in the middle" is widely attested since Homer, also in parallel with ἐν. Examples include *Il.* 11.64–65 (ὣς Ἕκτωρ ὅτε μέν τε μετὰ πρώτοισι φάνεσκεν, / ἄλλοτε δ'ἐν πυμάτοισι κελεύων "so Hector was shining at one time among the foremost, and then once urging on the last") and *Od.* 3.91 (εἴ τε καὶ ἐν πελάγει μετὰ κύμασιν Ἀμφιτρίτης ". . . or on the open sea in the billows of Amphitrite"; cf. also Hes. *Op.* 687).

(2) The local relation "after, beyond," that is, "on the other side," is actually expressed in toponymic compounds in Mycenaean Greek by means of *pe-ra* /*perā*°/ "further"(: πέραν); for instance, the

name of the Further Province at Pylos is *pe-ra*$_3$*-ko-ra-i-ja* /*Perăigolā*^{h}*iā* / as opposed to the Hither province, *de-we-ro-a*$_3$*-ko-ra-i-ja* /*Deuroaigolā*^{h} *iā*/ (with *de-we-ro*° /*deuro*/ : δεῦρο "hither"). In Mycenaean compounds the second member is itself a compound, such as °*a*$_3$*-ko-ra-i-ja* /*Aigolā*^{h}*iā*/ (or even /*Aigolā*^{h}*ia*/, neuter plural like Μέταπα), that is, "rock(s) of the goat(s) (αἴξ)," resulting from the univerbation of *αἰγός (αἰγῶν) and λᾶας (cf. PN Αἰγαλέον). The spatial notions of "hither" and "beyond" do not completely overlap, but one cannot help thinking that "beyond the mountain(s)" could have been expressed by means of /*perā*°/.

In favor of an interpretation of /*Metōrēs*/* as meaning "being beyond the mountain(s)" (in this case, probably Mt. Kithaeron), three arguments can be made:

(1) The sense "behind, beyond" of μετά is attested in Homeric Greek: ἂν δ'ἔβαν ἐν δίφροισι παραιβάται ἡνίοχοί τε, / πρόσθε μὲν ἱππῆες, μετὰ δὲ νέφος εἴπετο πεζῶν "and they [the Myrmidons] stepped up into the chariots, charioteers and sidemen, the horsemen in front, and behind them followed a cloud of foot-soldiers" (*Il.* 23.132–133).

(2) The Hesychian gloss μεταπόντιος· διαπόντιος does not mean "in the middle of the sea" (*pace* Liddell and Scott [1925–1940] 1968 s.v.), since the meaning of διαπόντιος is actually "beyond the sea," "ultramarine" (of a land, of a war, of an expedition), as some passages show beyond any doubt: τέκνων τ' ἐν κελεύθοις / ἐπιστρεπτὸν αἰῶ / κτίσσας πολύχωστον ἂν εἶχες / τάφον διαποντίου γᾶς "having founded for your children a life in which all would turn to look at them in the streets, you would have had a tomb heaped high in a land beyond the sea" (Aesch. *Cho.* 350–352); Πελοποννήσιοι . . . οὔτε ἰδίᾳ οὔτ' ἐν κοινῷ χρήματά ἐστιν αὐτοῖς, ἔπειτα χρονίων πολέμων καὶ διαποντίων ἄπειροι . . . αὐτοὶ ἐπ'ἀλλήλους . . . ἐπιφέρειν "the Peloponnesians have no wealth, either private or public; moreover, having no experience in protracted or transmarine wars, they attack each other" (Thuc. 1.141.2); and καὶ γὰρ τῶν πόλεων αἱ πολλαὶ αὐτῷ ἀργύριον ἀντὶ τῶν ἀνδρῶν ἔπεμπον, ἅτε καὶ διαποντίου τῆς στρατείας οὔσης "most of the states had sent him money instead of men, because it was an overseas expedition" (Xen. *Hell.* 6.2.16–17).

(3) The Italian *Metapontum* is situated at the coast of the gulf of Tarentum, between the rivers Bradanus and Casuentus. Its name can hardly mean "middle in the sea," whereas "beyond the sea" would be an adequate denomination from a Greek perspective. The same applies to Μεταπόντιον in Pisatis (Strabo 5.2.5).

To sum up: the MN /*Metōrēs*/* (dat. *me-to-re-i*) may refer to his bearer as someone who "is/lives in the middle of the mountains" or "beyond the mountains." Accordingly, the PN *me-ta-pa* : Μέταπα (with ethnic *me-ta-pi-jo* : Μετάπιοι) may be understood as "in the middle of the water(s)" or "beyond the water(s)." As to Μεταπόντιον, Μετάποντον (: Latin *Metapontum*), it may mean "beyond, behind the sea," as explicitly suggested by the Hesychian gloss.

O-po-re-i and *me-to-re-i* as Regular Compounds

A possible objection to the interpretation of *o-po-re-i* and *me-to-re-i* as /*Op-ōre*^{h}*i*/ and /*Met-ōre*^{h}*i*/ as the dative forms of two men's names, namely /*Op-ōrēs*/* and /*Met-ōrēs*/*, may be dealt with, and rejected, at this point. Although compounds of the type εἰν-άλιος very often have the suffix -ιος (*-*[i]*̯io-*, like Lat. *ē-gregius*) (cf. Risch 1974, 113, 187–188), this is not the case with /*Op-ōrēs*/* or /*Met-ōrēs*/*, despite the existence of a regular derivative ὄρειος, οὔρειος "mountainous" (feminine [fem.] ὀρεία), which could a priori lead us to expect compounds with /°*ōreios*/, that is, */*Op-ōreios*/, */*Met-ōreios*/ (written $^+$*o-po-re-jo*, $^+$*me-to-re-jo*). This objection is not a definitive one for three reasons:

(1) The formation of derivatives with the suffix -ιος is a common occurrence, not an absolute rule. In fact, not all types of stems have the obligatory -ιος, as shown by the compounds quoted above. There is, on the one hand, the Homeric εἰν-άλιος, *o-pi-da-mi-jo* /*opi-dāmio-*/ (: ἐπιδήμιος), PN *o-pi-ke-ri-jo* /*Opisk*^{h}*erion*/ or *u-pa/o-ra-ki-ri-ja* /^{h}*Upa/orakria*/ (: ὑπεράκρια), on the other PN *a-pi-a*$_2$*-ro* /*Amp*^{h}*i*^{h}*alos*/, PN *me-ta-pa* /*Metapa*/ : Μέταπα, and the appellative *o-pi-a*$_2$*-ra* /*opi*^{h}*ala*/.

In some cases, pairs of compound forms with and without -ιος are attested, and may even occur in the same corpus:

εἰνάλιος/ἔναλος: (a) εἰναλίη κήξ (Hom. *Od.* 15.479), κορῶναι εἰνάλιαι (Hom. *Od.* 5.66–67), Κύπρου . . . εἰναλίης (*Hymn. Hom. Ven.* 3); to be compared to (b) Μίλητον . . . ἔναλον πόλιν (*Hymn. Hom. Ap.* 166) and πολλοῖς μὲν ἐνάλου (Pind. fr. 357.l).

ἐπιδήμιος/ἐπίδημος: (a) ἔφαντ' ἐπιδήμιον εἶναι σὸν πατέρ(α) "they said that he was at home," (Hom. *Od.* 1.194), Mycenaean *o-pi-da-mi-jo* (of persons, namely of inhabitants), ἐπιδήμιοι ἁρπακτῆρες "plunderers of one's own countrymen" (Hom. *Il.* 24.262), ἐπιδήμιοι ἔμποροι "resident merchants" (Hdt. 2.39); compared to (b) ἀλλ' οὐ τυγχάνει/ἐπίδημος ὤν (Ar. fr. 390.2), ἔπειθ' ὅσοι παρῆσαν ἐπίδημοι ξένοι (Ar. fr. 543.1).

ἐφάλιος/ἔφαλος: (a) ἐφάλια· παραθαλάσσια (Suda); to be compared to (b) *ἔφαλον· ἐπιθαλάσσιον βραχυθαλάσσιον (Hsch.), Κήρινθόν τ' ἔφαλον (Hom. *Il.* 2.538), Ἔλος τ' ἔφαλον πτολίεθρον (Hom. *Il.* 2.585), ἐφάλοις κλισίαις (Soph. *Aj.* 191).

ἐννύχιος/ἔννυχος: (a) ἐννύχιος προμολών (Hom. *Il.* 21.38), ἐννύχιος ἄυπνος ὤν (Eur. *Ion.* 75); to be compared to (b) ἄγγελος ἦλθε θέουσ'(α) . . . / ἔννυχος (Hom. *Il.* 11.716), ἔννυχον . . . φῶτα (*Hymn. Hom. Merc.* 284). Cf. the gloss ἐννύχιος· νυκτερινός compared to ἔννυχος· νυκτερινός, αὐτονύχιος (Hsch.).

Μεταπόντιος (masculine [masc.]) / τὸ Μεταπόντον (neuter): (a) Μεταπόντιον τῆς Ἰταλίας (Thuc. 7.33.5), Μετ]απόντιον . . . θ<εό>τιμον ἄστυ (Bacchyl. fr. 11.10, cf. fr. 11.116), πρὸς δὲ τῷ Σικελικῷ τὸ Μεταπόντιον (Strabo 6.1.4); to be compared to (b) τὸν Μετάποντον (Strabo 6.1.15).

(2) Compounded names with a stem in *-es-* as its second member have always the nonenlarged form (°γένης), never a form in -ιος (+°γένειος). Their feminine counterparts are in -ειᾰ [-eiă] (°γένεια). Forms with °γένειος are, of course, restricted to patronymic and ktetic (i.e., possessive) adjectives attested in the Aeolic dialects in classical times. In these cases, however, the suffix -ιος is obligatory. On the basis of Ἐπιγένης and Μεταγένης instead of +Ἐπιγένειος and +Μεταγένειος, one can expect *Ἐπώρης and *Μετώρης, not +Ἐπώρειος and +Μετώρειος, with feminines *Ἐπώρεια and *Μετώρεια. The feminine PNs with °ωρεία, characteristic of toponyms, belong to a different type of formation with the suffix *-i̯a* (exclusively fem.), which has nothing to do with the suffix *-i̯o-* / feminine *-i̯ā-*.

(3) As to the common compounds, there is no unequivocal instance of compounds in °ώρειος, feminine °ωρεία (suffix *-i̯o-* / fem. *-i̯ā-*). The only exception is the substantive adjective ἡ παρόρειος "(territory, mountain) near to a mountain," which is clearly a secondary formation (with °όρειος) and is first attested in Strabo (12.3.15; 16.1.23).

We can also safely assume the existence of compounded names with °/*ōrēs*/, namely /*Op-ōrēs*/ (dat. o-*po-re-i*), /*Met-ōrēs*/ (dat. *me-to-re-i*) reflecting [ὀπί/ἐπί – ὄρει (ὄρεσσι)] and [μετά – ὄρει (ὄρεσσι)] or [μετά – ὄρος (ὄρεα)]. The feminine PNs in °ώρεια (e.g., Πανώρεια) presuppose the existence of masculine names like *Ὀπώρης and *Μετώρης. In regard to the assumption that a second member °ώρης is regular, there is no need to explain it as a secondary short form of °ώρειος. It must, however, be stressed that this possibility is not to be ruled out in the case of a personal name. Actually, the same device may be assumed for onomastic feminine compounds in -ειᾰ, on the basis of which short forms in -η may be created. This is the case of the Homeric woman's name Διομήδη, a short form of Διομέδεια, whose masculine counterpart is Διομήδης (cf. Risch 1974, 137–138).

The New Form *me-to-re-ja-de*

The directive form *me-to-re-ja-de* is found in the Thebes corpus on TH X 433:

.a] o [
.b]me-to-re-ja-de , [

The editors assume that "il est possible que *me-to-re-ja* soit un adjectif féminin substantivé désignant la 'région de *me-to-re*'" (Aravantinos, Godart, and Sacconi 2006, 8) and invoke as

parallels *po-to-a_2-ja(-de)*, *a-ki-a_2-ri-ja(-de)*, and *a_3-ki-a_2-ri-ja*, which they interpret as "la région du Ptoion" and "la région côtière." On the assumption that *me-to-re* could be the name of a "collector," they suggest further that "'la région de *me-to-re*' signifierait 'le territoire soumis à la jurisdiction de *me-to-re*'" (Aravantinos, Godart, and Sacconi 2006, 9).

In fact, the formation of *me-to-re-ja* (°*ōres-i̯ă-*) has nothing to do with that of *$a_{(3)}$-ki-a_2-ri-ja* /*Aigi^{h}aliā*/, which has a different suffix and a different syllabification, namely, *-i-ja* /*-iā-*/ [-ijā] (*-i̯i̯ā-*, beside the masc./neuter *-i̯i̯o-*). The explanation proposed by the editors is surely wrong (Aravantinos, Godart, and Sacconi 2006, 8–9), since to compare *me-to-re-ja* and *$a_{(3)}$-ki-a_2-ri-ja* is in contradiction to everything that we know about Greek word formation. The same applies to the rather cryptic alleged difference between "un adjectif féminin substantivé" and a "dérivé de l'adjectif grec αἰγίαλος" in the case of *$a_{(3)}$-ki-a_2-ri-ja*: a feminine adjective is obviously a derivative too. The only suffix that may be assumed for *me-to-re-ja* /*metōreia-*/ is *-i̯a- (*-i̯h_2-* : only fem., no masc. counterpart!). Mycenaean /*metōreia-*/ [metōreija-] goes back to Proto-Greek **metōreu̯i̯a-* (< **metōres-i̯a-*). The form immediately evokes compounds of identical structure with °ώρεια like Homeric ὑπώρεια "foot of a mountain," παρώρεια "district on the side of a mountain," and others.

It must be stressed that other suffixes are excluded by the spelling *-e-ja.* On the one hand, John Killen's appurtenance suffix *-e-ja* (masc. *-e-jo*) (Killen 1983; cf. also Ruijgh 1967, 260–261, 279; 1998–1999, who unnecessarily assumes a pre-Greek suffix), although it can be used in Mycenaean personal names, is never attested in PNs. Moreover, when added to a *-es-* stem, the result should have been $^+$/*-e^h-eiā-* / (masc. $^+$/*-e^h-eio-*/) and would have been rendered in Linear B $^+$*-e-e-ja* (*$^+$-e-e-jo*), so in our case we would have $^+$*me-to-re-e-ja*. On the other hand, a mere derivative form with *-i-ja* /*-iā-*/ [-ijā] (masc. *-i-jo* /*-io-*/ [-ijo-]) added to /*Metōres-*/ would have given / *Metōre^h-iā-*/. In this case we would have Linear B $^+$*me-to-re-i-ja*, cf. °*ke-re-we-i-jo* /°*klewe^h-io-*/ (cf. **kleu̯es-* : κλέος) in the patronymic *e-te-wo-ke-re-we-i-jo*, or °*ra-i-ja* /°*lā^{h}iā-*/ from **lās-i̯i̯ā-* (cf. **lā^{h}as-* : λᾶας "stone") in °*a_3-ko-ra-i-ja* /°*aigo-lā^{h}iā-*/.

The possibility that the PN *me-to-re-ja* would refer to a plot of land under the control of a prominent person named *me-to-re* encounters two major difficulties within Mycenaean Greek itself:

(1) It would be a unique case of a toponym based on a personal name, a type which, according to the common opinion, is absent in Linear B. In spite of a few possible exceptions (see below), there is no single instance of a PN of this type in Mycenaean that is formed by means of the suffix *-i̯a-*, as would arguably be the case for *me-to-re-ja*. Needless to say, this is the case for derivative PNs of the type Ἀλεξάνδρεια (: MN Ἀλέξανδρος), built by means of a feminine suffix -(ε)ια [-(e)ija], but these toponyms are first attested in classical times.

(2) The few PNs that could be assumed to rely ultimately on personal names have been formed by means of the Greek (and Mycenaean) local-collective suffix /*-ā*/. This is the case of the Pylian toponyms *a-ke-re-wa* (e.g., Ac 1277, and so forth) and *wo-no-qe-wa* (Na 396), which according to Melena are originally related to the personal names *a-ke-re-u* and **wo-no-qe-u* (Melena 2001, 59; see also Ruipérez-Melena 1990, 244 ["explotaciones personales"], *aliter* Leukart 1994, 247; Hajnal 1995, 216–217 with n. 293: place names, not personal names). If this were the case, one would expect the same formation in the case of the MN /*Metōres-*/, namely a PN **Metōres-ā*-whence Mycenaean */*Metōre^h-ā*/, which would have been spelled $^+$*me-to-re-a*. In other words, even if one is ready to accept that PN *a-ke-re-wa* and *wo-no-qe-wa* are based on men's names, this would constitute an argument against interpreting *me-to-re-ja* as based on the MN *me-to-re*.

To sum up, the PN *me-to-re-ja(-de)* is not a derivative of the personal MN (dat.) *me-to-re* and cannot mean "the region under the jurisdiction of *me-to-re*." Instead, the assumed conventions by which Greek compounds were formed and noted in Mycenaean amply demonstrate that *me-to-re-ja* can only be a feminine compound /*Metōreia*/, with a second member *°*-ōres-i̯ă-* (with suffix *-i̯a-*, not *-i̯i̯ā- or *-ei̯i̯ā-*).

The Identification of *me-to-re-ja* as a Place Name

The analogies drawn above from first-millennium Greek clearly argue in favor of the interpretation of *me-to-re-ja* as a PN /*Metōreia*/ (directive /*Metōreian-de*/). In fact, the second member /°*ōreia*/ (with *ă*!) perfectly matches °ώρεια, attested in compounds of three types: (1) with preposition as the first member (i.e., with identical structure as /*Metōreia*/); namely ὑπώρεια (Hom. *Il.* +) and παρώρεια (Polyb.); (2) with an adjective or a noun as the first member, either (2a) common compounds: ἀκρώρεια (Xen. +), πρυμνώρεια (Hom. +), or (2b) exclusively onomastic: PNs Ἀνεμώρεια (Hom. *Il.* 2.521, Phocis), Λυκώρεια (Phocis), and Φαλώρεια (Thessaly), as well as Λυμνώρεια (Hom. *Il.* 18.41), the name of a Nereid. Let us briefly examine these compounds more closely.

(1) With a preposition as the first member:

παρώρεια "district on the side of a mountain" (Polyb. 2.14.6), also PN Παρώρεια in Arcadia and Macedonia (Steph. Byz. s.v.) with the ethnic Παρωρεᾶται (Hdt. 8.73).

ὑπώρεια "the foot of a mountain" or "skirts of a mountain range," cf. ὑπώρ(ε)ια · τὸ κάτω μέρος τοῦ ὄρους (Hsch.), ἀλλ᾽ ἔθ᾽ ὑπωρείας ᾤκεον πολυπίδακος Ἴδης "but they still dwelt on the slopes of many-fountained Ida" (Hom. *Il.* 20.218; cf. Strabo 7.1.50), αἱ ὑπωρείαι τῶν ὀρέων (Hdt. 1.110).

ὑπερώρεια "the high part of the mountain" (late, only Heliod. *Aeth*. 2.12.2; Theophylactus Simocatta 2.8.11). The form is wrongly mentioned as synonym of ὑπερώρεια by Eustathius (ad Hom. *Od.* 19.205).

Both ὑπώρεια and παρώρεια (also ὑπερώρεια) have the same structure as *me-to-re-ja* /*Metōreia*/. Given the fact that *me-to-re* /*Metōrēs*/ is attested beside /*Metōreia*/, the existence of the unattested forms *Ὑπώρης and *Παρώρης related to ὑπώπεια and παρώρεια remains possible.

(2a) With an adjective or noun as the first member (common determinative compounds of the type ἀκρό-πολις, *a-ko-ro-da-mo /Akro-dāmos/*: Ἀκρό-δημος [cf. García Ramón 2006, 48–52]):

ἀκρώρεια "mountain ridge, top," cf. ἀκρωρείαις · ταῖς ἄκραις τῶν ὀρέων ἤτοι ἐξοχαί, κορυφαί (Hsch.), ἐποίησαν τοὺς πολεμίους . . . ὑπὸ τὰς ἀκρωρείας ὑποχωρεῖν (Xen. *Hell.* 7.2.10+), the inhabitants of which are called ἀκρωρεῖται (matching an epithet of Dionysus in Sicyon); a polis in Triphylia is named Ἀκρώρειοι (Steph. Byz.).

πρυμνώρεια "lower slope of the mountain," cf. ἵπποι δ᾽ ἐν πρυμνωρείῃ πολυπίδακος Ἴδης/ἑστᾶσ(ι) (Hom. *Il.* 14.307), also PN Πρυμνώρεια (Hom. *Il.* 20.218). The term is a synonym of ὑπώρεια.

In Greek ὑπώρεια (and synonymous πρυμνώρεια) and ἀκρώρεια designate the foot and the top of a mountain respectively. Both terms were usual designations for two of the three parts into which a mountain was divided in Greek thought, as explained by Hesychius: εἰς τρία γὰρ τὸ ὄρος μεμέρισται· εἰς ἀκρώρειαν, εἰς ὑπώρειαν, καὶ εἰς τέρμα. καὶ ἀκρώρεια μέν ἐστιν ἡ κορυφή, ὑπώρεια δὲ τὰ πλευρὰ τοῦ ὄρους, τέρμα δὲ τὸ τελευταῖον.

(2b) Compounded proper names (purely onomastic compounds):

PN Ἀνεμώρεια (: ἀνέμων ὄρος): οἵ τ᾽ Ἀνεμώρειαν καὶ Ὑάμπολιν ἀμφενέμοντο (Hom. *Il.* 2.521); also the name of a polis in Phocis (Steph. Byz. s.v.).

PN Λυκώρεια (: λύκων ὄρος), a small town in Delphi (Paus. 10.6.3), ethnic Λυκωρεύς, Λυκώριος, and Λυκωρείτης (Steph. Byz.; Paus. 10.6.3).

PN Λυμνώρεια (cf. λυμνός· γυμνός [Hsch.]), the name of a Nereid: Κυμοθόη τε καὶ Ἀκταίη καὶ Λιμνώρεια (Hom. *Il.* 18.41).

PN Φαλώρεια (cf. φαλόν· λευκόν [Hsch.]), a polis in Thessaly (also named Φαλώρη, with ethnic Φαλωρεύς and Φαλωρείτης), and Φαλωριάς, a polis in Locris, with ethnic Φαλωριεύς (Steph. Byz.).

A last remark on word formation is in order at this point. Compounds with °ώρεια, both proper names and appellatives, and the specific feminine suffix

in *-i̯a- (type τράπεζα, Mycenaean *to-pe-za*, also in compounds cf. Mycenaean *e-ne-wo-pe-za*, from -*di̯a*-, or Homeric βῆσσα "glen" from *-*dʰi̯a*-) characteristically have no specific masculine counterpart (⁺-*i̯o*- or the like), because compounds do not have a specific feminine form in opposition to the masculine one (see also Risch 1974, 137–138). They may coexist with a nonsuffixed form of the compound (e.g., Homeric χαλκοβάρεια "loaded with bronze" beside χαλκοβαρής) or not (e.g., Homeric ἠριγένεια "born early," but not ἠριγενής before Ap. Rhod.). This type of formation is very frequent in compounded proper names as a peculiar motion device, which is restricted to onomastics (e.g., Mycenaean *a-ti-ke-ne-ja* : Ἀντιγένεια, Ἰφιγένεια, Ἰφιμέδεια), and also with designations of places (μισγάγκειαν "meeting of the glens/of the waters" [Hom. *Il.* 4.453]). In the case of *me-to-re-ja* /*Met-ōreia*/, the nonextended compound does exist as the MN *me-to-re* /*Met-ōres-*/: in any case, both the region and the man bear the same name, specifically "which/who is middle in the mountain(s)" or "beyond the mountain(s)."

Conclusions

(1) Dative *o-po-re-i* /*Opōreʰi*/ and *me-to-re-i* /*Metōreʰi*/ have the same structure and point unmistakably to the nominative forms /*Opōrēs*/* /*Metōrēs*/*, both of which are compounded personal names.

(2) The MN /*Opōrēs*/* reflects the collocation [ὀπί/ἐπί – ὄρει (ὄρεσσι)] "who is/lives on the mountain(s)," which is attested in the Homeric formula ἐπ᾽ ἀκροπόλοισιν ὄρεσσι (Hom. *Il.* 5.523; *Od.* 19.205).

(3) The MN /*Metōrēs*/* reflects [μετά – ὄρει (ὄρεσσι)] or [μετά – ὄρος (ὄρεα)] and means "who is/lives in the middle of the mountain(s)" or "beyond the mountain(s)," respectively.

(4) The PN *me-to-re-ja** /*Metōreia*/ (in the directive *me-to-re-ja(-de)* /*Metōreian-de*/) has the same structure as ὑπώρεια "foot of a mountain" and παρώρεια "part of the side in a mountain" (also PN Παρώρεια in Arcadia, Macedonia). The second member °ώρεια is attested also in ἀκρώρεια, πρυμνώρεια, in the PN Ἀνεμώρεια (Hom., Phocis), Λυκώρεια (Delphi), Φαλώρεια (Thessaly), and in the Nereid name Λυμνώρεια (Hom. *Il.* 2.521). The PN *me-to-re-ja* is therefore not a derivative of the personal MN *me-to-re* and cannot mean "the region under the jurisdiction of *me-to-re*" but simply the region that is beyond or in the middle of the mountains.

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CHAPTER

23

Considering the Population Statistics of the Sheep Listed in the East–West Corridor Archive at Knossos

Richard Firth

The sheep tablets from the East–West Corridor archive at Knossos form a substantial part of the total archive recovered from the palace. Jean-Pierre Olivier (1988) has shown that it is possible to compare the totals of sheep from individual wool flocks with overall totals found in the Dn series. This comparison indicates that the sheep archive is reasonably complete. Therefore, it is worthwhile trying to analyze these tablets in greater depth.

The analysis of the sheep tablets has already been the subject of numerous papers (e.g., Killen 1962, 1963, 1964, 1968, 1969, 1993; Olivier 1967, 1972, 1988; Halstead 1990–1991, 1996–1997; Bennet 1992). However, it is not the aim of this paper to review previous scholarship, but instead to study the sheep population statistics implicit within the tablets of the East–West Corridor archive.

The interpretation of the various signs used on the sheep tablets has been fully considered by John Killen (1963, 1964). Extensive use will also be made of Olivier's reconstruction of the sheep archive (Olivier 1988). All additional readings of the Knossos archives are based on the fifth edition of *The Knossos Tablets* (Killen and Olivier 1989) and *The Corpus of Mycenaean Inscriptions from Knossos* (Chadwick et al. 1986–1998). Before examining the Linear B tablets, however, I first consider some evidence that we have on the characteristics of Bronze Age sheep.

Bronze Age Sheep and Their Management

Michael Ryder (1983, 47) has suggested that Soay sheep are survivors of the prehistoric sheep of Bronze Age Europe on the basis of their bone structure and the textiles produced from their wool. Therefore, we will begin this section by considering the sheep that lived on Soay, an uninhabited island of the St. Kilda group situated off the northwestern coast of Scotland. In 1932, when the neighboring island became uninhabited, a group of 107 sheep were transferred from Soay to Hirta. Soay sheep differ from modern sheep because they have not been subject to 3,000 years of livestock breeding. "In many aspects of their anatomy and physiology, they are intermediate between contemporary domestic sheep and wild sheep" (Clutton-Brock and Pemberton 2004, 17). One difference from modern sheep is that Soay sheep molt, and their wool can be removed by plucking and therefore do not need shearing (Clutton-Brock and Pemberton 2004, 28).

Tim Clutton-Brock and Josephine Pemberton (2004) present a detailed study of the population dynamics of Soay sheep on Hirta over a period from 1985 to 2001. They found that the size of the population underwent large and relatively rapid fluctuations, with periods of high population followed by periods of high mortality. One key point that they observed was that each sheep needs to eat at a consistently high rate in order to achieve sufficient weight so that it is robust enough to survive the harsh winter. During the mating season, rams give their attention to breeding rather than eating, and as a consequence they have a life expectancy of up to about eight years (Clutton-Brock and Pemberton 2004, 34, 44, 47). By contrast, wethers (castrated male sheep) do not engage in mating activities and so spend more time eating; thus they can live for up to 16 years (Clutton-Brock and Pemberton 2004, 255–256). The life expectancy of ewes is up to about 14 years (Clutton-Brock and Pemberton 2004, 47).

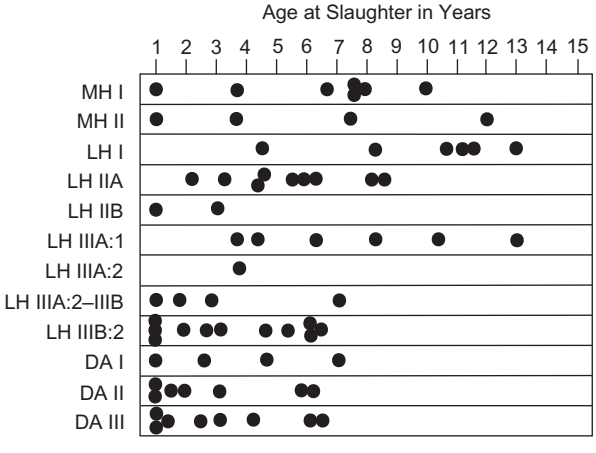

Figure 23.1. Age of slaughter of sheep and goats at Nichoria. DA = Dark Age; LH = Late Helladic; MH = Middle Helladic. After Sloan and Duncan 1978, fig. 6-2.

Clearly the weather conditions on Crete are not as harsh as those in the north of Scotland, and so we might expect that, on average, Bronze Age sheep on Crete could potentially have lived longer than those on Soay. However, the Cretan flocks were managed and they would have been culled at some stage, rather than allowing every sheep to live out its natural lifespan.

We can get some insight into the management strategy for sheep and goats in the Mycenaean period from Figure 23.1, based on data from Nichoria, Messenia (Sloan and Duncan 1978). This figure shows that prior to Late Helladic (LH) IIIA:2, there is little evidence of a strategy for killing the sheep and goats, which apparently could live for up to 13 years. This life expectancy is broadly consistent with the findings from the study of Soay sheep, described above. However, beginning in LH IIIA:2, there is clear evidence for a strategy of killing some sheep or goats at one year of age and killing all sheep and goats that lived as long as about seven years.

If the sheep had been kept for meat, then it would have been optimum for most of the males to be killed after one or two years. It is clear from the Knossos Linear B tablets, however, that the sheep were kept to produce wool. In this case, it would have been optimum for the sheep to be kept so long as they were producing wool of sufficient quality and did not require an unreasonable level of attention. (Payne [1973] suggests that wool quality declines for older animals.) On the basis of the Nichoria data, it would appear that the optimum age for killing sheep in wool flocks was about seven years.

The sheep at Knossos were largely kept in either breeding flocks or wool flocks. In order to maintain (and perhaps increase) flock size, it would have been necessary to keep all fertile ewes in the breeding flocks. The wool flocks would then have consisted of infertile ewes and male sheep that had been castrated in order to make them more docile and to improve the wool production.

Before concluding this section, it may be useful to consider some of the basic details of the sheep life cycle. The gestation period for Soay sheep is 21.5 weeks (Clutton-Brock and Pemberton 2004, 285). The median day of oestrus for sheep varies as a function of latitude (Clutton-Brock and Pemberton 2004, 36) and, therefore, the lambing season would be different on St. Kilda and Crete. For Crete, Ryder (1983, 322) states that lambing season for sheep today is from November to January in the eastern part of the island, extending to March in western Crete. Soay females can conceive in their first mating season at about seven months of age, but the mortality rates of their offspring within the first year are relatively high. Twinning can occur for mature ewes, but the mortality rates for these offspring are also relatively high. Weaning of lambs occurs quickly within the first few weeks (Clutton-Brock and Pemberton 2004, 38). It is also useful to note from Mesopotamian texts that the expected natural loss rate of adult sheep was 15% per annum (Postgate and Payne 1975).

Overall Population Statistics of the Sheep Listed in the East–West Corridor Archive

We are now in a position to examine the Linear B texts. The first step is to define clearly the extent of the sheep archive being discussed. Olivier (1988) concentrated on the Da-Dg and Dv series of Knossos tablets written by Hand 117. The Dh(1), Dm, and Dq(2) tablets were found mixed up with the Da-Dg series tablets (Firth 1996–1997), and therefore it would seem reasonable to include these in the current study. The Dh(1) and Dm series tablets were also written by Hand 117. The Dq(2) are a small series of tablets written by Hand 216, primarily concerned with the sheep of *ti-ri-to*. In view of the poor quality of writing by Hand 216, it seems reasonable to suppose that this person was a trainee scribe working as a pupil of Hand 117. Although the Dk(2) tablets (written by Hand 119) were also found in the same place, they are clearly duplicating flocks already listed in the Da-Dg and Dv series, written by Hand 117 and, therefore, they will not be included (unless otherwise stated).

The next step is to provide an estimate of the total number of sheep that were listed in the East–West Corridor archive immediately prior to the destruction of the palace. This question is considered in detail in the Appendix, and the final estimate given there is approximately 61,500 sheep.

The estimated total of sheep in "collector" flocks is 19,695 (see Table 23.9 in the App.; for a recent discussion on the definition of the term "collector" and the identification of "collectors," see Rougemont 2001). This number is only approximately 2.5% greater than the amount given on tablet Dn 1088 (19,200). This number is given in Killen and Olivier (1989) as 19,200[, and so the original number was probably larger than 19,200. Although no words remain on Dn 1088, it is reasonable to assume that it represents the total number of sheep in collector flocks within this archive (cf. Olivier 1967).

Olivier (1988, 264) notes that of the 50,445 wool sheep explicitly listed in the preserved archive, 6,250 are ewes. If we assume that this ratio was typical of the original archive then, there would have been approximately 53,880 (= 61,500 x [50,445–6,250] / 50,445) male sheep and approximately 7,620 female sheep in the wool flocks. As we have noted, all the male sheep in the wool flocks would have been wethers (castrated males). Therefore, additional rams must have been kept for breeding. Tablet Dn 5286 lists 4,000 male sheep under the label]*ka-ta*, which is generally taken to be *we-*]*ka-ta* (i.e., "workers"; see Olivier 1967). If

this reading is correct, then the most plausible interpretation of "workers" is that these 4,000 rams were used for breeding. Dave Brown and Sam Meadowcroft (1989, 133) suggest that for modern sheep management the optimum number of mature rams required is 1 per 40 ewes or 1 ram lamb per 20 ewes (see also, D'Arcy 1990, 251). This would require 1,250 to 2,500 rams for the above totals. Thus the 4,000 rams (suggested in the main text) is an appropriate number, although somewhat larger than the modern optimum. If we add these breeding rams to the number of castrated male sheep in the wool flocks, we get a total of approximately 57,880 male sheep.

It is evident that the primary purpose of the East–West Corridor archive was to list wool flocks. This archive does not include the large number of breeding ewes that must have been necessary to supply the many thousands of lambs required each year to maintain the size of the flocks. Let us consider now the overall sheep population associated with the wool flocks of the East–West Corridor. If we make the assumption that all sheep (male and female) were allowed to live for as long as they were useful for wool production, then there would be little difference between the overall number of male and female sheep. On this basis, the size of this overall sheep population would have been approximately 115,760 (= 2 x 57,880). This would have been made up as indicated in Table 23.1.

In the above figures, the percentage of the female sheep that were in the wool flocks is 13%. If we make the reasonable assumption that only infertile ewes would have been moved from the Knossos breeding flocks into the wool flocks, then the implication is that approximately 13% of the ewes were infertile. This figure is broadly consistent with the finding for Soay sheep that the number of lambs to ewes is typically 80–100 for 100 ewes (Clutton-Brock and Pemberton 2004, 38; Halstead 1996–1997 also provides a discussion on the breeding flocks listed at Knossos).

Males in the wool flocks	53,880
Females in wool flocks	7,620
Breeding rams	4,000
Breeding ewes	50,260
Total	115,760

Table 23.1. Overall sheep population associated with the wool flocks in the East–West Corridor texts.

Young Sheep in the Wool Flocks

We will begin this section by including a brief discussion on *ki*, *ne*, and *pe* sheep since these abbreviations are used in the archive of the East–West Corridor and some ambiguity about their meanings seems to exist. According to Ventris and Chadwick (1973), *ki* should be interpreted as "young," "newborn"; *ne* is probably an abbreviation of *newos* "new" or "young"; and *pe* is an abbreviation of *pe-ru-si-nu-wo/-wa* "last year's."

The tablets from the East–West Corridor that refer to *ki* sheep are Dh 1240, 1243, and 1406 (Hand 117) and Dk 1066 and 1067 (Hand 119). In each case, the tablets refer specifically to *ki* OVIS. These young sheep do not appear in the same flocks as ewes, and therefore they clearly have been weaned. Since the archive of the East–West Corridor is concerned with wool flocks and not with breeding flocks, it follows that these young sheep are males, as indicated (because any young females would have been retained for breeding). Furthermore, as these are wool flocks, the *ki* OVIS^{m} have almost certainly been castrated since castration is typically done very early in life. (For modern sheep, castration is typically done within the first week and certainly within three months because after that date an anesthetic would be required [Brown and Meadowcroft 1990, 161].)

Tablet Dh 1243 simply lists one hundred *ki* OVIS^{m}. On Dh 1406, we have *ki* OVIS^{m} 75 *pẹ* OVIS^{m} 10, providing a combined flock of lambs and male sheep that were born last year. Tablet Dh 1240 is similar, except in this case the listing of the lambs is preceded by *ne* (i.e., '*ne*' *ki* OVIS^{m} 82 *pe* OVIS^{m} 18). Here, *ne* emphasizes the contrast between the new lambs

("this year's"; Killen 1962) and the *pe* sheep that were born last year. On Dk 1066 and 1067, a similar formulation is used, except the lambs are listed as '*ki*' OVIS^{m} with the *ki* directly above the *ne*. This discussion prompts us to ask at what point does "last year" end and "this year" begin. In terms of the sheep breeding cycle, it seems reasonable to assume that each year includes the full extent of lambing season, which for modern day sheep on Crete lasts from November to March.

In addition to these tablets, *ne* only appears on Dn 1319 (Hand 117) from the East–West Corridor archive. It appears there as *ne* OVIS^{m}. In this case, with the absence of *ki*, it seems most reasonable to interpret these as male sheep that are being newly introduced into the wool flocks, rather than to assume that they are specifically "this year's lambs." The wider evidence supports this interpretation. According to Olivier (1988), the number of missing (*o*) sheep is 1,889, whereas the number of replacement sheep required each year was approximately 11,000. Therefore, most sheep flocks must have been made up to full strength relatively recently because otherwise the flock sizes would have been reduced due to deaths from natural causes. However, with the exception of the small number of tablets discussed above, all the young sheep in these wool flocks are described as *pe* OVIS^{m}, that is, "last year's male sheep." The implication is that the "new" sheep that were introduced into the flocks were either literally *pe* OVIS^{m} or were predominantly *pe* OVIS^{m} and so could be conveniently labeled as *pe* OVIS^{m}. Killen (1993) has suggested an alternative interpretation, namely, that the *o* sheep are not missing due to death from natural causes but are a deficit for which the palace holds the shepherd responsible. However, his interpretation does not affect the above argument that the flocks are near full strength.

We can now consider the number of young (*pe*) male sheep. All of the *pe* sheep listed in the wool flocks of the East–West Corridor archive are male. This is to be expected since, as already noted, the young female sheep would have been used as breeding stock. However, it is evident that the recording of *pe* sheep was not done rigorously because the overall ratio of young sheep to male sheep is approximately 0.02 (= 738/40,122), which is clearly absurd (the numbers used in this calculation are taken from Olivier 1988, 264). Instead, we will begin by considering the 14 flocks in the Dc series that contain only male sheep and *pe* sheep. In these cases, the total number of *pe* sheep was 274 within a total flock size of 1,380, that is, the proportion of *pe* sheep was 0.20. If this comparison is extended to include mixed flocks with sufficiently complete data, then the ratio of *pe* sheep to male sheep is 0.19 (which is effectively the same ratio). Now, if we were to assume that this ratio was maintained throughout the flocks, it would imply that one-fifth of the stock of male wool sheep were *pe* sheep, and this would be the proportion of the male flock that had to be replaced each year. This is entirely plausible if the maximum life span of sheep was approximately seven years. Clearly, in managing the Knossos sheep flocks it would have been very important to ensure that sufficient new sheep were being introduced into the flocks to replace the number that had died from natural deaths or culling during the previous 12 months.

If we assume that the proportion of *pe* male sheep to male sheep in the main wool flocks is approximately 0.2, then it would follow that there would have been approximately 10,800 (= 53,880 x 0.2) young male sheep in these flocks. We can add to this the approximately 600 young sheep in the flocks discussed above (Dh 1240, 1243, 1406; Dk 1066, 1067), giving an estimated total of approximately 11,400 *ki* and *pe* sheep in the wool flocks.

Tablet Dn 1319 contains the only listing of new sheep given in the Dn series of aggregate totals of sheep in the wool flocks. The agreement between the estimated number of approximately 11,400 *ki* and *pe* sheep in the wool flocks and the 11,900 new male sheep given on tablet Dn 1319 can be regarded as encouraging (Olivier 1967). It should be noted that the word]*mi-ni-si-ja* on Dn 1319 is reconstructed as *a-*]*mi-ni-si-ja* and is taken to be from the toponym *a-mi-ni-so*. It is difficult to understand the labeling of the 11,900 young sheep with the word *a-mi-ni-si-ja*, as it seems implausible that so many sheep could have been bred at Amnisos. It is noted that ἀμνός is a lamb, although we would not be justified in linking ἀμνός with *a-mi-ni-so* (J.T. Killen and J.L. Melena, pers. comm.).

Olivier (1988) identifies a total of 590 flocks in the Da-Dg series. Of these only 54 flocks explicitly contain *pe* sheep. The total number of *pe* sheep listed is 738. If we examine these in detail, we find

that they are predominantly associated with the place names in Table 23.2. Of the remaining 158 *pe* sheep, 59 cannot be attributed to any place name because of the fragmentary nature of the tablets. It is worth noting that, for some toponyms, there are no *pe* sheep registered at all (e.g., *a-ka*, *da-wo*, *di-ro*, *e-ko-so*, *pa-i-to*, *pu-na-so*, *qa-na-no-to*, *qa-ra*, *ra-ja*, *tu-ri-so*, *u-ta-no*).

It is clear that the natural cycle of replacing sheep that had died or had been culled would lead to virtually every flock containing some young sheep. The fact that the flocks that explicitly contained the majority of *pe* sheep are predominantly associated with a very limited number of place names is statistically highly significant. The recording of *pe* sheep was not essential for the management of wool flocks. Therefore, it is suggested that these could be correlated with the particular individuals who provided the census data for these sheep flocks. In other words, the *pe* sheep in these flocks are listed because the individuals who provided these data chose to list them explicitly.

It is also worth noting that the ratio of female sheep to mature male sheep on the tablets containing *pe* sheep is unusually high: 0.39 (cf. an average of 0.16). This finding will be considered in further detail below.

Toponym	Count	Flocks
*56-ko-we	184	(from 12 flocks)
ru-ki-to	196	(from 7 flocks)
ku-ta-to (da-mi-ni-jo)	142	(from 5 flocks)
da-*83-jo	58	(from 1 flock)

Table 23.2. The *pe* sheep by toponym (total 580).

The Rate of Loss of Sheep Due to Natural Causes

In this section, we will attempt to use the available information to calculate the rate of loss of sheep due to natural causes. If we let N be the total number of male sheep entering each year into the wool flocks and we let β be the fraction of male sheep that survive each year, then we can draw up Table 23.3 (assuming that all sheep are culled at seven years old). Thus, the total number of male sheep in the wool flocks is equal to:

$$N + \beta N + \beta^2 N + \beta^3 N + \beta^4 N + \beta^5 N + \beta^6 N = 53{,}880$$

where N = 11,400. We can solve this equation and show that β = 0.865. Thus, this calculation implies that there is approximately a 13.5% loss of sheep each year from natural causes. This figure is consistent with the Mesopotamian texts where the expected annual loss was set at 15% (Postgate and Payne 1975, 6). It is interesting to note that this figure is also consistent with the loss of female Soay sheep averaged between figures derived from the high and low population density life tables given in Clutton-Brock and Pemberton (2004, 330). However, it should be noted that there is a wide variation between the survival rates derived separately for high and low population densities (0.72, 0.95). In the absence of data for wethers, the female sheep data were used for this comparison, as their life expectancy more closely approximates that of castrated males.

Age of Sheep	Number of Male Sheep
0+ (weaned lambs)	N
1+ (yearlings)	βN
2+	β^2N
3+	β^3N
4+	β^4N
5+	β^5N
6+	β^6N

Table 23.3. Constructing a model for the number of male sheep in the wool flocks by age. N = number entering flock each year; β = number that survives each year.

Old Sheep in the Wool Flocks

In the wool flocks, the abbreviation *pa* (i.e., *pa-ra-jo*) denotes old sheep. Olivier (1988) notes that a total of 246 *pa* sheep are recorded explicitly within 62 flocks. This amount is a little surprising since, if the maximum life span allowed for each sheep is seven years, then roughly one-seventh of the total number of sheep were in the last year of their lives. Even if we make an allowance for early deaths due to natural causes, then the number of sheep that are six years and older would have been over 4,500.

Unlike the *pe* sheep, the *pa* sheep are distributed more widely among the toponyms, with generally small numbers of *pa* sheep in the flocks for which they are recorded. However, it is worth noting the concentrations in Table 23.4. There are some locations where no *pa* sheep are registered (e.g., *a-ka*, *pu-so*, *qa-ra*, *qa-na-no-to*, *ra-su-to*, *su-ki-ri-ta*, *ti-ri-to*, and *u-ta-no*).

No evidence exists within the Knossos flocks that old sheep were separated from the main wool flocks. Thus, in practice, most flocks would have contained a number of old sheep. While it is possible that the *pa* sheep are sheep that escaped culling and lived on beyond seven years, it is most likely that these are a record of some of the sheep that were due to be culled within the next year. Therefore, as with *pe* sheep, the evidence suggests that the registering of these sheep was not done consistently and could probably be correlated with the particular individual(s) who provided these data.

It is worth noting that the individual(s) recording the data for *ru-ki-to* appears to have been particularly zealous in their recording of both *pe* and *pa* sheep. On the other hand, the individual(s) responsible for recording *a-ka*, *qa-ra*, *qa-na-no-to*, and *u-ta-no* did not record either *pe* or *pa* sheep.

The most unusual factor about the *pa* sheep is that they appear overwhelmingly on tablets that include ewes. Further, the ratio of female to mature male sheep on the tablets containing *pa* sheep is exceptionally high (0.49; cf. the average of 0.16). One could guess that, if a shepherd were responsible for a wool flock with a large proportion of relatively old, infertile ewes, he would be concerned about the number of older male sheep and the viability of the flock.

Toponym	Count	Flocks
ru-ki-to	54	(from 9 flocks)
su-ri-mo	33	(from 7 flocks)
pa-i-to	21	(from 6 flocks)

Table 23.4. The *pa* sheep by toponym (total 108).

Female Sheep in the Wool Flocks

In the above discussion, it is assumed that the ewes in the wool flocks are infertile sheep that have been moved from the breeding flocks into the wool flocks to supplement wool production. It would be reasonable to presume that these ewes were drafted into the wool flocks based relatively close to the locations of the breeding flocks, as little purpose would be served by moving them over large distances. Table 23.5 gives the numbers of female sheep in the wool flocks of the East–West Corridor listed for each toponym. It also includes the ratio of female sheep to mature male sheep (excluding *pa* sheep). The toponyms included are those for

Toponym	Number of Ewes	Ratio of Ewes to Mature Males
da-ra-ko	103	0.43
su-ki-ri-ta	112	0.40
do-ti-ja	378	0.38
ra-to	559	0.32
ti-ri-to	299	0.27
*56-ko-we	388	0.26

Table 23.5. Numbers of female sheep in the wool flocks by toponym (East–West Corridor).

which this ratio is greater than 0.20 (cf. an average of 0.16). Thus, on the assumption that these infertile ewes would be most likely to be in wool flocks close to breeding flocks, then it follows that breeding flocks probably existed in the locality of *da-ra-ko*, *do-ti-ja*, *ra-to*, *su-ki-ri-ta*, *ti-ri-to*, and **56-ko-we*.

We can go further than this by noting the relatively large proportion of female to male sheep in the flocks listed with *pe* and *pa* sheep (respectively, 0.39 and 0.49; cf. the average of 0.16). Using the same logic as above, it could be argued that some of those flocks were based particularly close to breeding flocks.

Using the Archive to Aid the Reading of Individual Tablets

To conclude this paper, we will consider the readings of a small number of tablets. The interpretation of the signs on the Knossos tablets has tended to be governed by reading on a sign-by-sign basis or on simple comparisons from tablet to tablet. Within the sheep archive, where a large body of data exists, it is possible to interpret the tablets relative to the larger body of information from the archive. The following paragraphs give a few examples.

Dc 5812 + 7993 [+] 7163 (117)
.a [ki-]ri-jo-te
.b su-po / *vest.*[ ]OVIS^{m} 90 *o* OVIS^{m} 10[ ] *vac.*

.b *vest.*: **56*[-*ko-we* more likely than *da*[-*wo.*

We will consider the statement, "*vest.*: **56*[-*ko-we* more likely than *da*[-*wo.*" In practice, no other flock is recorded at **56-ko-we* that has registered *o* sheep. By contrast, at least five flocks from *da-wo* have registered *o* sheep. Furthermore, if Dc 5812 had been listed under **56-ko-we*, then it is likely that the total found on Dn 1093 would have been exceeded. Thus, on the basis of this evidence, Dc 5812 is less likely to be **56-ko-we* than *da-wo*.

Dv 1226 + 1357 (117)
.A OVIS^{m} 62 OVIS^{f} 10
.B a-ze-o , / **56*-ko-we , OVIS^{m} 28
v. a

.B Error for <*o*>, <*pa*> or <*pe*> OVIS^{m} ?

The 28 male sheep listed on the lower line of Dv 1226 are not explicitly marked as being *o*, *pa*, or *pe*. In practice, 11 of the 23 other flocks from **56-ko-we* have *pe* sheep, none have *o* sheep (except possibly Dc 5812, see above), and only one has a limited number of six *pa* sheep. (The largest number of *pa* sheep found on any tablet from the East–West Corridor is 21, on Dd 1376.) Therefore, the 28 sheep on Dv 1226 are most likely to be *pe* sheep.

Dv 1248 (117)
.A OVIS^{m} 84 OVIS^{m} 11 [
.B ki-ri-ne-to / tu-ni-ja *pe* OVIS^{m} 5
(216?)
v. ru ka

.A OVIS^{m} 11: apparently error for OVIS$^{<f>}$ or <*o*> OVIS^{m} 11.

In practice, the bulk of noncollector flocks at *tu-ni-ja* contain ewes, but none of the flocks have *o* sheep. Therefore, it is much more likely that OVIS^{m} 11 should have been written OVIS^{f} 11.

Dv 6054 + 8397 + *fr.* (117)
.A] OVIS^{m} 195 OVIS^{f} 35
.B] ri-jo-no [·]OVIS^{m} 70

.B Trace of adjunct (*pa*?) before OVIS^{m}.

It is most unlikely that an adjunct *pa* is before the OVIS^{m} 70. As already noted, the largest number of *pa* sheep found in a single flock is 21. Thus, it is more likely that the adjunct would be *o* or *pe* on the basis of the numerical data.

Conclusions

The aim of this paper has been to study the population statistics of the sheep in the wool flocks recorded on the tablets from the East–West Corridor at Knossos. This included considering the relevant

statistics from a flock of Soay sheep living on Hirta, as survivors of the prehistoric sheep of Bronze Age Europe, and also the skeletal remains of Bronze Age sheep.

It is shown that a central estimate of the total number of sheep that were listed in the wool flocks in the East–West Corridor archive, immediately prior to the destruction of the palace, is approximately 61,500 sheep. Of these, approximately 19,700 were in collector flocks. These figures exclude sheep in the breeding flocks, and, if these were included, it is estimated that the overall sheep population would have been approximately 115,760.

This paper includes a discussion on younger (*ki*, *ne*, *pe*), old (*pa*), and missing (*o*) sheep. It is demonstrated that these categories of sheep are not recorded consistently. For example, the *pe* and *pa* sheep are recorded for flocks associated with some toponyms and not for others. It is estimated that approximately 13.5% of the male sheep in the wool flocks would have been lost each year from natural causes. Finally, the paper gives examples where the readings of tablets could be improved if account was taken of the statistics from the overall collection of wool flocks in the East–West Corridor.

Appendix: Estimating the Number of Sheep Listed in the Archive of the East–West Corridor

The aim of this Appendix is to estimate the total number of sheep that were listed in the archive of the East–West Corridor immediately prior to the destruction of the palace. There are different ways in which this could be done.

1. We could count the number of shepherds associated with the main sheep archive flocks and multiply by the average number of sheep in each flock. Based on the figures provided by Olivier (1988, 266: the title of the relevant table is "Tableau d'ensemble des principals donées numériques"), there are 446 flocks listed in column I and 49,155 sheep in column III, giving an average of 110 sheep per flock. This is sufficiently accurate for present purposes. Arthur Evans took a particular interest in listing the names of the shepherds from the main sheep archive (Firth 1996–1997, 61). He produced a list of over 400 names of shepherds. Subsequent work on joining tablets has extended this list to approximately 460 names. This would yield an estimated total number of sheep accounted for in the main sheep archive of approximately 51,000. However, it can be argued that this is an underestimate because it automatically excludes all flocks for which the shepherd's name has been lost.
2. We could count the number of toponyms given on the tablets and, again, multiply by the average number of sheep in each flock. This is one of the estimates given by Olivier (1988, 266, column III of the table), which we would increase in the present study to allow for the additional series being included. The estimated total number of sheep obtained by this method is approximately 53,000. Again, it can be argued that this is an underestimate because not all the toponyms have been preserved.
3. Olivier (1988) also produced an integrated total estimate based on: (a) the actual number of sheep in each flock, where known; (b) a rounded-up number of sheep per flock, where the actual number was reasonably well preserved; and (c) a default value of 100 sheep per flock in cases where the actual number was not sufficiently well preserved to make a better estimate.

   This gives an estimated total of 65,899 sheep. It can be argued that this is an overestimate because sheep flocks are double accounted in cases where the tablet has broken (and not re-joined), and each part of the tablet is ascribed as corresponding to a full flock of sheep. However, it should be noted

that the fifth edition of the *The Knossos Tablets* (Killen and Olivier 1989) lists over 80 Dv series tablets that were not considered by Olivier. If we repeated the calculation, but included these additional tablets, the estimate for the number of sheep would increase to approximately 74,000. However, this figure is almost certainly an overestimate, because many of the additional Dv series tablets are from the 9000 series and so are very probably fragments of tablets that are preserved and have already been counted.

It remains to calculate a central estimate of the number of sheep that were listed in the sheep archive of the East–West Corridor. This will be done by elaborating on the method developed by Olivier (1988, 266). Olivier assessed the magnitude of the flocks associated with each toponym based on readings or estimations of the number of sheep in each flock. Since there were typically 100 sheep in each flock, he assumed that it was reasonable to suggest that there were 100 sheep in flocks even in cases where none of the numerals had been preserved.

Olivier went on to assess the number of sheep that were in collector and noncollector flocks for each toponym. If there were clear signs of a collector's name, then he assigned the flock to a collector. Otherwise, he largely assumed that the flocks were not assigned to a collector. This included tablets where the relevant part of the tablet was damaged or missing. As a consequence, the number of noncollector sheep was overestimated. In order to avoid this, we will list separately the numbers of sheep for each toponym that are definitely associated with a collector, those that are definitely not, and those where there is some uncertainty.

Olivier (1988) considered tablets in the Da-Dg and Dv series. As already noted, we will extend this to include the other tablets written by Hands 117 and 216 that originated from the East–West Corridor. However, in the small number of cases where the same shepherd's name appears on two tablets with the same toponym, one of the tablets is excluded, since it is assumed that the two tablets are referring to the same flock. It is convenient to present the results in two groups. Group A contains the toponyms with a useful corresponding entry in the Dn series (Table 23.6), and Group B are the entries for the remaining toponyms (Table 23.7).

For the total number of sheep in column IV of Olivier's table (1988, 266), where it is uncertain whether or not they are associated with collectors, the numbers will be divided in the ratio of the totals in columns II and III.

Toponym	Number of Sheep in Restored Flocks			Dn Series (Noncollector)
	Noncollector	Collector	Uncertain	
da-wo	1,060	1,200	850	2,440
da-*22-to	920	1,010	380	1,370
e-ko-so	1,270	950	500	2,252
ku-ta-to	2,604	1,420	500	3,103
pa-i-to	824	3,140	200	1,509
pu-na-so	330	320	—	330
pu-so	880	—	150	1,034
qa-ra	1,990	300	100	2,290
ra-ja	860	300	100	904
ru-ki-to	2,657	290	340	4,080
su-ki-ri-ta	400	—	100	517
su-ri-mo	1,620	400	870	2,390
ti-ri-to	1,210	292	100	1,222
*56-ko-we	1,850	200	100	2,003
Totals	18,475	9,822	4,290	25,444

Table 23.6. Group A: number of sheep by toponym with corresponding entry in the Dn series.

Toponym	Number of Sheep in Restored Flocks		
	Noncollector	Collector	Uncertain
<blank>	300	—	—
a-ka	1,800	—	400
da-ra-ko	—	520	—
da-*83-ja	—	150	—
di-ro	200	250	—
do-ti-ja	1,125	620	200
e-ra	610	1,150	400
ma-no-we[	—	100	—
qa-mo	500	110	—
qa-na-no-to	450	—	500
qa-sa-ro-we	—	50	—
ra-su-to	994	130	100
ra-to	2,015	300	300
ri-jo-no	1,852	410	100
se-to-i-ja	—	200	—
tu-ni-ja	926	400	400
tu-ri-so	500	—	200
u-ta-no	350	—	200
Totals	11,622	4,390	2,800

Table 23.7. Group B: number of sheep by toponym, excluding flocks from Table 23.6

	Number of Sheep in Restored Flocks		Dn Series (Noncollector)
	Noncollector	Collector	
Group A	21,276	11,311	25,444
Group B	13,654	5,158	—

Table 23.8. Number of sheep in restored flocks, noncollector and collector.

	Number of Sheep in Restored Flocks	
	Noncollector	Collector
Group A	25,444	13,527
Group B	16,329	6,168
Totals	41,773	19,695

Table 23.9. Number of sheep in restored flocks, with numbers enhanced to reflect hypothesized loss of tablets.

In Table 23.8, there is a difference between the number of noncollector sheep in the restored flocks from Group A and the totals from the Dn series. This is largely a reflection of the fact that there are a significant number of tablets where the toponyms have not been preserved. The ratio of these two numbers (25,444/21,276) provides us with a multiplier that can be used to allow for this shortfall in the preservation of tablets for each of the other totals (see Table 23.9). On this basis, the total number of sheep represented in the main sheep archive is:

$$41{,}773 + 19{,}695 = 61{,}468$$

Quoting this number to five significant figures implies an unreasonable level of accuracy and it is better to quote the number in round terms. Therefore, our estimate is that there were approximately 61,500 sheep in the wool flocks. This number is less than the estimate of 65,899 given by Olivier (1988, 264). The latter estimate was based on the number of tablets and fragments (with KT numbers less than 8835). The discrepancy probably arises because there are a significant number of joins and quasi-joins yet to be discovered among these fragments.

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CHAPTER

24

Homer and Mycenae: 81 Years Later

Carol Thomas

The invitation to participate in a Festschrift in honor of Cynthia Shelmerdine coincided with the use of her newly published *Cambridge Companion to the Aegean Bronze Age* (Shelmerdine, ed., 2008) in my senior and graduate level course on pre-Classical Greece. As expected, the 75 students in the class judged it excellent as did I. Reflecting on the broad focus of Professor Shelmerdine's interests—from Mycenaean Greece to Homer and from archaeology to written sources—brought an idea for my contribution to this Festschrift.

Homer and Mycenae have been connected since antiquity, generally arousing heated debate. The knowledge base for discussion has grown both in quantity and sophistication, especially in the 20th century, forcing disciplines in all of the human sciences to reconsider their methods. Although the process was fitful, by 2002 John Davies could write of the "series of remarkable shifts and enlargements of scholarly focus [in the study of Greek history], many of which have been heavily influenced by ideas and debates which have developed in other disciplines" (Davies 2002, 225). His concluding words are "[A]ll forms of scholarship in Greek history . . . currently reflect a sense of confidence and innovative expansion" (Davies 2002, 246).

Martin P. Nilsson's *Homer and Mycenae* (1933), described by Einar Gjerstad (1968, 21) as one of a trilogy of epoch-making books, is remarkable in its fullness and prescience. Without the evidence that has gradually been gained after its publication in 1933, the author anticipated all the avenues necessary to link his two subjects: epic tradition; the reality of its subjects; and comparative data, both linguistic and archaeological. Since these areas define Professor Shelmerdine's scholarly interests, this essay considers how Nilsson's pioneering work now stands in the light of subsequent scholarship to which she has been a major contributor.

Although *Homer and Mycenae* was published in 1933, it originated in a series of lectures given in 1929 at the University of London, and a large part

of the manuscript was written in autumn of 1930 while Nilsson was Sather Professor of Classical Literature at the University of California, Berkeley. For this essay, then, "the extensive and controversial subject" of the book (Nilsson 1933, vii) represents opinions current ca. 1930. Its first chapter identifies the core of the controversy: "Views and Methods in the Homeric Question." Nilsson's own interest in mythology and religion "constantly brought [him] up against Homeric problems," and he felt compelled to make his own decisions about them (Nilsson 1933, vii).

The Homeric Question, for Nilsson, originated in the "effort to attain an insight into the creation and the growth of a work of unsurpassed poetical genius" (Nilsson 1933, 1). While he stated that he had not ventured into the philological field for many years, his degree from the University of Lund in 1892 was in classics, and inspection of the testimonia for his Ph.D. thesis, *Studia de Dionysiis Atticis* (Nilsson 1900), reveals the sweep of his sources among extant original works of all genres, including scholia and inscriptions ranging from ca. 700 B.C. to high Byzantine times. The bibliography of his own 1,000 publications is laden with philological subjects, and one of his areas of teaching was epigraphy. He brought new insights to a controversy that had a long history.

In the fifth century B.C., Herodotus (2.53) speculated about the time when the poet lived, while others denied that such a man ever existed. By the third century, the Alexandrian scholar Aristarchus of Samothrace found it necessary to refute a theory of separate authorship of the epics in his *Answers to the Paradox of Xenon*. Largely in abeyance in later Medieval Europe due to the sparseness of Greek original texts, the modern Homeric Question dates to the *Dissertation on the Iliad* by François Hédelin, abbé d'Aubignac, published in 1715 (although written in 1664). In its more recent form the "Question" deals with four problems: (1) was there an individual named Homer?; (2) were the *Iliad* and *Odyssey* composed by a single author and, in fact, were the versions that we possess composed as organic wholes?; (3) what constitutes the epic language?; and (4) what period of Greek history do the poems represent? None of these issues had been solved in 1930, and the controversy was as bitter as it was prolific. However, the next decade would produce a new tool.

That tool is an analysis of the nature of oral poetry, which addressed one major cause for debate about the epics, namely the lack of evidence for writing in Greece until the early Classical period. The American scholar Milman Parry, together with Albert B. Lord, advanced proof that the poems are oral compositions with language based on a systematic use of formulas, metrical groups of words formed and utilized to enhance the power of memory when written means did not exist. A living example of oral composition was discovered in Yugoslavia. Published reactions to the argument—as is regularly the case in matters dealing with the Homeric Question—were not uniformly favorable, with some arguing that formulas occur in all poetry, written or oral. Nilsson quickly found Parry's work "able and sagacious" (Nilsson 1933, 179). As Parry's son, Adam Parry, acknowledged in the publication of his father writings, Nilsson provided the "first published notice of the significance of Parry's work by a scholar of international reputation . . . when Parry was virtually unknown outside Harvard and the University of California" (Parry, ed., 1971, xliv). Nilsson's own discussion of the creation and transmission of epic tradition included Teutonic epics dating back to Roman times and ranging widely throughout Europe to Iceland; the French *chansons de geste*; Serbian, Bosnian, and Herzegovinan epic poetry, including Islamic epics; the poetry of the Karakirgizes, a Turkish tribe in central Asia; the prose epic cycle of the Nartes, current among the Ossetes and other tribes of the northern Caucasus; and the epics of the Atchinese in Sumatra.

The support of these disparate, numerous traditions to the initial findings from Yugoslavia would eventually prove both welcome and essential to an understanding of the creation of the Homeric epics. They demonstrated, first, that majestic poetry can be created in nonliterate societies. As Nilsson reasoned from his knowledge of the epic poetry of many such cultures, its origin was in early songs accompanied by the music of instruments. Epics developed out of shorter songs but were concerned with historical subjects and events, and they were recounted in a more leisurely, thus longer, manner. Instruments retained their important role. The more taxing performance gave rise to the poetic craft through which gifted individuals learned from accomplished minstrels, indirectly by hearing

them and, in some instances, directly by personal attachment to a famous singer.

Consequently, the process of poetic creation is capable of retaining knowledge of previous periods of time. As Nilsson (1933, 173) writes, "The epic technique was learnt and inherited by the minstrels with all its paraphernalia, and they drew on the amassed store of centuries in composing their songs. In this way the old elements were incorporated indissolubly even into the most recent songs." Yet new elements could be inserted, and changes in the language itself might appear as certain forms assumed an archaic character over time and as elements from other dialects or languages intruded when a highly regarded song reached other people.

The unusual nature of Homeric Greek, with its dialect mixture that has no certain historical parallel, raised another problem essential to dealing with the Homeric Question, namely, the ability to reckon with the origin and interaction between the forms of Greek. In this reckoning, Nilsson traced the language of the poems back to the Arcado-Cypriot dialect and its link with Aeolic, agreeing with philologists who placed both in what was then termed the Achaean group, associated with the Mycenaean Age. Although indications of writing on Mycenaean monuments had been noted as a result of the late 19th-century excavations, evidence needed to determine the dialects of Greek was virtually absent; by the late 1930s, it consisted of an inscription of 19 signs on a clay bowl. Excavations at Pylos began in 1939, yielding 600 inscribed clay tablets. World War II in Greece interrupted progress until 1952.

Another conclusion of Nilsson's studies was that although epic poetry was transmitted orally, "[o]ral tradition embodied in versified form and even more in the memory of a minstrel has a greater stability than we are accustomed to think" (Nilsson 1933, 3). A "conclusion"—that there are words in the Homeric poems that go back to the Mycenaean Age—"may seem hazardous to many who are accustomed to erect a screen between the Mycenaean Age and the beginning of the Historical Age. This screen is in reality only our ignorance of what happened in the intervening centuries" (Nilsson 1933, 178). In view of this depth of the poetry, it is possible to understand "how his archaisms were preserved, viz. through an epic technique which constantly drew on a stock inherited from of old and embodied its elements even in its most recent products" (Nilsson 1933, 183). Nilsson realized that circumstances in the late Mycenaean Age produced changes in the dialects of Greece that are reflected in the epics as we know them. His view is that the poetry was preserved by the northern branch of the Achaeans, the Aeolians—who, on emigrating to Asia Minor, brought the poems with them and transmitted them to the Ionians, thus embedding a new mix of dialects (Nilsson 1933, 175–177).

To demonstrate that Greek culture reached back to the preclassical past required material evidence. Nilsson was aware of the value of the new tool of archaeology early in his professional career, as the appreciation of archaeology developed early in the Scandinavian countries, and university positions were established in this field in the 19th century. Einar Lofstedt's doctoral thesis at Uppsala University, "Studia archaeologica," led to his appointment as docent in classical archaeology at that same university in 1882. One of his first graduate students, Samuel Wise, was appointed, in 1895, associate professor of classics at the University of Lund, where Nilsson was then studying. Even before completing his doctorate in 1900, Nilsson assumed the instruction of archaeology in 1899 when Wise returned to Uppsala. Ten years later, when chairs in classical archaeology and ancient history were created at Uppsala and Lund, Nilsson was invited to take the chair at Lund. Beyond teaching, his career included field work and efforts to create major research centers, such as the Swedish Institute at Rome.

Consequently, when the claims of Heinrich Schliemann were being derided by many, Nilsson realized that "when the Mycenaean civilization was discovered . . . new and large vistas opened for Homeric research" (Nilsson 1933, 19). His study of objects uncovered by the excavations of the late 19th and early 20th centuries revealed that "certain descriptions in Homer correspond closely to and are explained by objects and elements appearing in the Mycenaean civilization but not in the Archaic Age" (Nilsson 1933, 119). It is hard to agree with his statement, however, that "[t]he recognition of this fact is, at least in some instances, universal" when classicist Samuel Bassett declared that Homer "created a land that never was on land or sea" (Bassett 1938, 244).

Just as important was Nilsson's recognition of the link between the Mycenaean and post–Mycenaean

Ages, "a transitional period . . . of which we know next to nothing" (Nilsson 1933, 119–120). This lack of knowledge persisted even longer than was the case for the Bronze Age largely because of the dearth of evidence, either physical or written, for the post–Bronze Age era. As recently as the 1960s, a prominent position was that with the destruction of the Mycenaean citadels, as well as smaller communities, came a new population that virtually erased the features of Mycenaean times (Desborough 1964). The Dark Age was either a hiatus or fallow ground upon which a new culture was constructed.

Even without the evidence that had accumulated steadily in the past 30 or 40 years, Nilsson discerned continuity in the features of later Greek culture and those of the Mycenaean Age. He regularly alluded to the mythical elements of the epics, such as "the myth of the war of the Seven against Thebes," Agamemnon who "exists in the myth only as King of Mycenae," the "Achilles myth," and "the myth of the Argonauts" (Nilsson 1933, 116, 251, 260, 272). He noted that "the mythological centers are always at the same time centers of Mycenaean civilization [which] proves that the cycles of heroic myths in their outlines go back to Mycenaean times" (Nilsson 1933, 248). Even Troy, while not strictly a Mycenaean center, belonged to "Mycenaean times" (Nilsson 1933, 249). Admitting that the nature of the evidence hindered the development of a history of the Mycenaean Age, Nilsson relied on the juxtaposition of archaeological evidence and traditional accounts to define the warlike character of the period and also to propose more specific historical reconstructions. For example, he suggested that mainland inhabitants, fully aware of Minoan culture, may have gained closer access to it through raids and, later, may have been responsible for the fall of Knossos (Nilsson 1933, 95). As recently as 1990, in preparing a second edition of William McDonald's *Progress into the Past*, this remained a contentious question (McDonald and Thomas, eds., 1990).

The nature of the early post-Mycenaean culture is, as mentioned above, difficult to ascertain because it "is notoriously very poor, too poor to correspond to the civilization described by Homer" (Nilsson 1933, 141). Among the issues that concerned Nilsson was the transition from the dominant use of bronze to iron, and he considered the theory that use of the two metals coexisted (Nilsson 1933, 140–141). He addressed in more detail the nature of political organization in Homer, in the Mycenaean Age, and in post-Mycenaean times, finding that in institutions as well as in material culture the backdrop of the epics accorded more closely with the earlier Mycenaean world than with the later.

Looking beyond the Aegean sphere was also unconventional in 1930, but Nilsson was keen to consider the importance of the larger context. He recognized that "now that Hittite documents have revealed the existence of a great Achaean kingdom in the Mycenaean Age, we have to revise our conceptions of the prevailing conditions" (Nilsson 1933, 235). It is true that the Hittite tablets were known and being studied by 1900 (Messerschmidt 1900), but by 1930 only those in the Babylonian language could be read with certainty. As Hogarth admitted in the 1926 *Cambridge Ancient History* discussion on the Hittites in chapter 11, "If such aids stood alone, too little could be made of the documents for any useful historical purpose to be served . . ." (Hogarth 1926, 254). In the account of the Trojan War, it was reported only briefly that after Kadesh, western Asia Minor had probably been for some time slipping out of (Hittite) control (Bury 1926, 487). By contrast, Nilsson offered a more detailed consideration of people and places mentioned in the Hittite texts and their possible Greek equivalents: the King of Ahhiyawa (Achaia); places named Taroisa (Troy), Lazpa (Lesbos), and Wilusa (Ilium); and the King of Wilusa named Alakshandush (Alexandros). Nilsson reminded his readers that the man responsible for the Trojan War was Alexandros-Paris, and he saw in the tablets indications of ongoing Hittite activity in western Anatolia.

In sum, Nilsson was exceptional in the breadth and foresight of his scholarship. Surely his prodigious publications brought his views to international attention. Or perhaps those views were too exceptional. And so, the question remains: How have his answers to the Homeric Question fared?

In the decades following Parry's death in 1935, his theories on oral tradition, especially as they were expanded in the work of Lord, won adherents. It is no longer blasphemy to say that the unusual nature of the epics can be explained if we understand the oral means of their composition. Not only

the Homeric epics but subsequent literature as well has been shown to rely, at least in part, on the techniques of oral tradition. Scholars from such diverse fields as psychology, anthropology, communications, history, and linguistics have defined certain features that are shared by oral societies widely separated by time and space, along with quite another set of features that characterize literate cultures equally distant from one another. There is general agreement that it is possible to distinguish between a literate and a nonliterate mentality with quite distinct world views and means of communicating those views.

The development of our understanding of the orality of the Homeric poems is well exemplified by the evolutionary model of Gregory Nagy (Nagy 1996, 6). He posits "at least five distinct consecutive periods of Homeric transmission—'Five Ages of Homer,' as it were" (Nagy 1996, 41). The first two belong to the ages of oral formation and transmission, and the third reflects the creation of written texts. Ages four and five are stages in the textual history of the epics, beyond the scope of the present discussion. The first "Age" is a relatively fluid period, with no written texts, extending from the early second millennium into the middle of the eighth century. The second, more formative "pan-Hellenic" period, still with no written texts, extends from the middle of the eighth century to the middle of the sixth. A definitive third period, centralized with potential texts in the sense of transcripts, lasts from the middle of the 6th century to the later part of the fourth.

As Nagy describes the character of the composition, "[a]n *Iliad* composed by Demodokos would have been a poem with a structure more simple and more broad, with an Achilles who is even more crude than the ultimately refined hero we see emerging at the end of our *Iliad*" (Nagy 1979, 65). It is interesting to compare Nilsson's view from 80 years ago that the poems consist of "elements from several times" that "are to be compared with a dough which has been rehandled and rekneaded constantly, not without adding new elements" (Nilsson 1933, 173).

A major issue in the Homeric Question has been the nature of the Greek in the epics: was it a spoken language of an area where mixed dialects of Greek were in use? Or was it a mix of two existing dialects into a new form? Perhaps it was an artificial language never spoken but instead a highly developed literary style.

The decipherment of the Linear B script has, for almost everyone, demonstrated that the language of the Mycenaean palace centers was Greek. However, the limited nature of the evidence both in the form and number of the Linear B tablets and the total lack of written evidence from the post–Mycenaean Age until the eighth century has deferred the answer to this aspect of the Homeric Question even today (Bartoněk 2003, 470). Yet in identifying the Arcado-Cypriot and Aeolic dialects as key to the issue, Nilsson's position anticipates one persuasive present-day answer: the Mycenaean dialect of the late Mycenaean Age stemmed from the Achaean dialect that had drawn together earlier forms and, from ca. 1300, was accompanied by the Arcadian and Cypriot forms. At that same time proto-Aeolic was developing in the northeast of Greece (Bartoněk 2003, 494).

Growing sophistication of archaeological methods, accompanied by the newer array of scientific and technological tools, has only enhanced the reality of the Heroic Age of Greece. As Shelmerdine (2008a, 1) writes in her introduction to *The Cambridge Companion to the Aegean Bronze Age*:

> None of [the] pioneers could have imagined the quantities of sites and artifacts that would subsequently be found, the proliferation of new techniques for everything from excavation itself to scientific dating and provenience studies, or the textual information revealed by the decipherment of the Mycenaean script.

Consider the enterprise of Robert Bittlestone (2005), who describes himself as an "amateur" but has drawn together a large corps of scientists, literary scholars, historians, and present-day residents of the Ionian islands to locate the realm of Odysseus. Discounting the possibility that the Homeric account is fictitious, he finds evidence that the western peninsula—Paliki—of the island of Kephalonia was once divided from that island. He compares 37 clues derived from a close reading of the *Odyssey* with existing conditions to identify the likelihood of places described in the epic.

The dark transitional period, largely devoid of evidence and interest in 1930, has become far less dark due to these same archaeological tools. Moreover, Nilsson's recreation of institutions from this transitional period has been validated by

subsequent studies. For example, his suggestion that Bronze and Iron Age technology overlapped seems well founded. As Anthony Snodgrass wrote of the Bronze Age Aegean in 1989, "desultory experiences with iron in the preceding thousand years or more . . . clearly demonstrate that a culture may be familiar with the rudiments of iron working . . . for centuries before entering a true Iron Age" (Snodgrass 1989, 23).

It took some time for scholars of one region of the ancient world to look for evidence from other cultures. It is safe to assert that looking at evidence from the Hittites has demonstrated—for many but not all—the reality of a Trojan war. The Hittite documents reveal the participation of Ahhiyawans in the eastern Mediterranean internationalism of the Late Bronze Age in, for example, what is termed the "friends and enemies tablet" that includes the line that no ship may sail to him (i.e., the king of Assyria) from the land of Ahhiyawa.

Those records also provide the first mention of Troy (Wilusa/Ilios) in referring to a Hittite military expedition in the late 15th century. Hittites and Achaians may have come into contact through trade at Troy/Wilusa since goods of both cultures have been found there. The records also reveal that Hittites were interested in control of that site: in the early 13th century a rebel Hittite chieftain made himself overlord of Wilusa. In a later record, written to the leader of Millawanda (a Minoan—later Mycenaean—settlement, and even later Miletus), the Hittite king refers cryptically to "that matter of Wilusa." By the late 13th century, Millawanda was in the Hittite sphere of influence, and a king of Wilusa appointed by the Hittite king had the interesting name of Alaksandu. For Homer, Alexander-Paris was a principal character in the Trojan legend. (Hittite records deal with a variety of people within and beyond its empire. Texts mentioning Ahhiyawa may refer to Mycenaeans [Beckman, Bryce, and Cline 2011]. For a discussion of the possible links with Bronze Age Greeks, see Thomas and Conant 2011; see also Bendall, this vol., Ch. 12.)

Developments in preclassical Greece are now firmly established by the evidence not only from the Aegean sphere but also from the larger context of contemporaneous Mediterranean and Anatolian cultures. Nilsson would be pleased to read of the interaction between Minoan Crete and the Mycenaean mainland. Of the notable changes on Crete in Late Minoan IB, John Younger and Paul Rehak concluded that "Mycenaeans from the mainland may have been responsible or they may have taken advantage of an existing situation on Crete" (Younger and Rehak 2008, 141). Such a conclusion seemed plausible to Nilsson on the basis of far less evidence.

The choice of this topic for my essay was prompted by a recognition of the kindred spirit shared by Nilsson and Shelmerdine. Nilsson was exceptional among others interested in early Greece during his time. He contested the position that the world revealed first and essentially only in the Homeric epics was, as quoted earlier "a world that never existed on land or sea" (Bassett 1938, 244). The unsolvable "Homeric Question(s)," coupled with the lack of other evidence of a glorious culture before that of classical Greece, produced a very strong paradigm. This paradigm was widely shared by scholars operating largely within the scope of their individual disciplines, unlike Nilsson, who considered the evidence from multiple areas of study.

As recently as 1987, Snodgrass described the relationship between "pure classics and classical archaeology" as "improving today, at least in some superficial ways" (Snodgrass 1987, 4). He called for more cooperation to be given to "insights of nonclassical archaeology" (Snodgrass 1987, 209) and was concerned about the "estrangement between classical archaeology and the 'new archaeology'" (Snodgrass 1987, 9). And he worried that "Greek archaeology . . . has been married to, or waiting on, the wrong kind of history" (Snodgrass 1987, 37).

The isolation between the disciplines impeded the sharing of valuable findings and, thus, retarded any major change in the paradigmatic view of early Greece. For example, when the decipherment of Linear B was claimed in the 1950s, reaction against that claim persisted for more than two decades, although it gradually declined in force. The Mycenaean session of the 1957 annual meeting of the American Philological Association was described as "an auspicious occasion" (Bennett 1958, 19), but two years later a review of the announcement of the decipherment compared it with the Piltdown Hoax (Puhvel 1959, 656). In 1963, notice of a lecture "Is Linear B Deciphered?" announced that "the entire community of classics scholars in the Twin Cities area is up in arms about 'certain answers' to this

question. The showdown may come this afternoon" (Bennett 1963). Even within individual disciplines there was a reluctance to accept new directions. As Shelmerdine notes (2008a, 9), "[a]rchaeologists were slow to answer Blegen's call to arms" to investigate smaller settlements as well as the large centers.

Inasmuch as reconstructing the reality of the "World of Homer" required input from several disciplines, the contribution of a single person, regardless of the brilliance of that contribution, was unlikely to alter the fixed perceptions of every discipline. Again, as Shelmerdine (2008a, 14) wisely remarks, "the Aegean Bronze Age deserves better than to remain the arcane province of a few specialists." Nilsson's breadth of knowledge was, in fact, something of an impediment to progress as independent corroboration in each area of his insightful analysis depended on the work of other scholars in those areas. Significant as well was the state of current understanding in 1930. For example, more evidence was essential to understand the "dark" transitional period between the Mycenaean Age and the Classical period. In 1930, the pioneers of archaeology made great strides through ongoing excavation at major sites, but even the developments in field techniques and scientific aids they made use of were still primitive by comparison with those introduced in the second half of the 20th century.

More sweeping was the impact of what was seen as "a general crisis in the human sciences" (Braudel 1980, 25). Within disciplines, existing methods were perceived as inadequate, and scholars turned attention to new models as well as technological and scientific tools that produced "new" disciplines in all of the human sciences. One innovative theoretical position, grounded in relativism, that took root in the field of linguistics and quickly spread to other fields was that the understanding of texts and objects is dependent on the view of the reader/viewer. Some two decades were required for a rapprochement between the "old" and the "new" views of the world.

Nilsson brought a multidisciplinary approach to the issues and training of future scholars, new techniques and tools, and a willingness to advance new answers to old questions. Shelmerdine follows in the tradition of scholarship that Nilsson established. Trained as a classical scholar in her studies at Bryn Mawr and Harvard, she is versed in Homeric and Classical Greek and has published a textbook, *Introduction to Greek* (Shelmerdine 2008b). On that strong base she approached the study of Linear B Greek, working with John Chadwick at Cambridge University. In addition, her competence in archaeology is demonstrated in her major Bronze Age research projects and publications.

Firmly rooted paradigms change only slowly, if at all. Even though the classical Greeks themselves appreciated their deeper past, our own understanding is very recent. For our altered view of Greek history we owe gratitude both to pioneers like Nilsson and successors to that way of thinking like Shelmerdine.

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